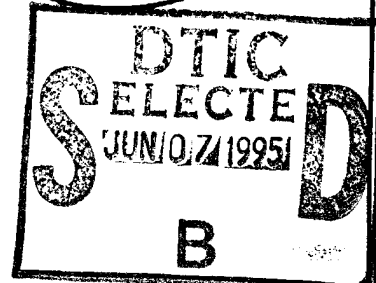
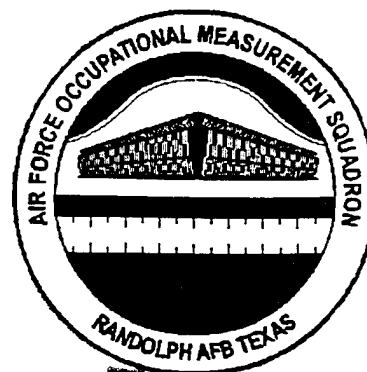




**UNITED STATES  
AIR FORCE**



# **OCCUPATIONAL SURVEY REPORT**

**AEROSPACE PHYSIOLOGY**

**AFSC 4M0X1**

**AFPT 90-4M0-028**

**MARCH 1995**

**OCCUPATIONAL ANALYSIS PROGRAM  
AIR FORCE OCCUPATIONAL MEASUREMENT SQUADRON  
AIR EDUCATION and TRAINING COMMAND  
RANDOLPH AFB, TEXAS 78150-4449**

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## PREFACE

This report presents the results of an Air Force Occupational Survey of the Aerospace Physiology (AFSC 4M0X1) career ladder. Authority for conducting occupational surveys is contained in AFI 36-2623. Computer products used in this report are available for use by operations and training officials.

1Lt Callie J. Molloy, Inventory Development Specialist, developed the survey instrument. Captain Ty K. Sills, Occupational Analyst, analyzed the data and wrote the final report. Ms Jeanie C. Guesman provided computer programming support, and Ms Sharon Slayton provided administrative support. Major Randall C. Agee, Chief, Airman Analysis Section, Occupational Measurement Squadron, reviewed and approved this report for release.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to the Air Force Occupational Measurement Squadron, Attention: Chief, Occupational Analysis Flight (OMY), 1550 5th Street East, Randolph AFB, Texas, 78150-4449 (DSN 487-6623).

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## SUMMARY OF RESULTS

1. Survey Coverage: The Aerospace Physiology (AFSC 4M0X1) career ladder incumbents were surveyed to obtain current task and equipment data for use in examining training programs. Survey results are based on responses from 359 members worldwide. All commands were proportionately represented.
2. Career Ladder Structure: Structure analysis identified one job cluster and seven independent jobs: Aerospace Physiology Technician job cluster, Entry-Level Aerospace Physiology Technician Independent job, Hyperbaric Chamber Equipment Maintenance Independent job, Hyperbaric Chamber Independent job, Research Chamber Independent job, Pressure Suit Independent job, Training Independent job, and Superintendent Independent job.
3. Career Ladder Progression: Personnel in the AFSC 4M0X1 career ladder follow a typical career progression pattern. Inexperienced personnel perform technical work in support of hypobaric chamber or pressure suit operations. More experienced personnel perform technical and training functions in support of these same operations, as well as some hyperbaric chamber support jobs. Experienced personnel perform mostly supervisory and managerial functions rather than technical tasks.
4. Training Analysis: A match of survey data to the draft AFSC 4M0X1 Specialty Training Standard (STS) identified numerous items not supported. Many unsupported items relate to performing spatial disorientation trainer maintenance and performing pressure suit activities. A similar match of data to the Plan of Instruction (POI) for the 3ABY4M031 course revealed fewer unsupported training objectives, many of which relate to emergency egress principles. Career ladder functional managers and training personnel should carefully review these nonsupported STS and POI entries to justify their continued inclusion in training documents.
5. Job Satisfaction Analysis: Overall, AFSC 4M0X1 members are as satisfied with their jobs as members of a comparative sample of medical career ladder personnel. Furthermore, members of the current sample are as satisfied with their jobs as the previous AFSC 4M0X1 (formerly AFSC 911X0) personnel surveyed in 1988. Job satisfaction data for members of specific career ladder jobs show that most job members are satisfied with their work. Only the Hypobaric Chamber Instructor and Research Chamber Job incumbents feel their talents are not being properly utilized and their work is not particularly interesting.
6. Implications: The current AFSC 4M0X1 career ladder job structure is similar to the job structure identified in the 1988 OSR. The AFM 36-2108 *Specialty Descriptions* accurately describe the jobs and tasks personnel at all skill levels perform, and job satisfaction is generally positive for identified jobs. The training documents analysis identified many unsupported STS items and POI learning objectives. Training personnel and career ladder functional managers should review these documents to ensure they are complete and appropriate.

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**OCCUPATIONAL SURVEY REPORT (OSR)  
AEROSPACE PHYSIOLOGY CAREER LADDER  
AFSC 4M0X1**

**INTRODUCTION**

This is an Air Force Occupational Measurement Squadron occupational survey report (OSR) of the Aerospace Physiology (AFSC 4M0X1) career ladder. This survey, completed in 1994, is intended to update the current data base and to identify any changes that may have taken place since the last survey in 1988.

Background

The AFMAN 36-2108 *Specialty Description* for this career field states that 3- and 5-skill level members conduct training and testing with aerospace physiology devices. This includes delivering briefings to trainees before hypobaric and hyperbaric chamber flights and dives, as well as acting as inside and outside observer or other related crew positions. Related duties involve instructing and supervising trainees in fitting, adjusting and caring for oxygen masks and other personal equipment; and briefing students on parasail and proper parachuting techniques, to include landing-fall procedures, swing landing trainer procedures, and parasail procedures. Finally, these personnel maintain and modify aerospace physiology equipment and associated records.

In addition to the above, 7-skill level members inspect and evaluate aerospace physiology activities, and refer findings and recommendations to aerospace physiologists. They also plan and schedule aerospace physiology activities, including low-pressure, chamber flight, night vision training, and ejection seat training activities. Finally, they supervise records maintenance and establish routine storage, inspection, and maintenance procedures.

At the 9-skill level and Chief Enlisted Manager (CEM) level, members plan, organize, and direct all types of aerospace physiology activities. This includes analyzing workloads and formulating aerospace physiology training and associated policies and procedures.

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## SURVEY METHODOLOGY

### Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory (JI) AFPT 90-4M0-028, dated November 1993. A tentative task list was prepared after reviewing pertinent career ladder publications and directives, and tasks from previous applicable OSRs. The preliminary task list was refined and validated through personal interviews with 15 subject-matter experts (SMEs) selected to cover a variety of major commands (MAJCOMs) at the following locations:

<u>BASE</u>	<u>REASON FOR VISIT</u>
Brooks AFB TX	Technical Training School (Training, Research Activities, and Clinical Hyperbaric Medicine)
Beale AFB CA	HQ ACC 2d Air Force (Pressure Suit Activities)
Sheppard AFB TX	80th Flying Training Wing (Undergraduate Pilot Training Activities)

Others contacted include Air Force Military Personnel Center (AFMPC) classification personnel, functional and resource managers, the Air Force functional manager, and the HQ AETC Action Officer.

The resulting JI contains a comprehensive listing of 423 tasks grouped under 14 duty headings, with a background section requesting incumbents to indicate their grade, job title, time in present job, time in service, job satisfaction, and equipment they maintain in their present job.

### Survey Administration

From November 1993 to May 1994, military personnel flights at operational bases worldwide administered the inventory to all eligible AFSC 4M0X1 personnel. Members eligible for the survey consisted of the total assigned 3-, 5-, 7-, 9-, and CEM-skill level populations, excluding the following: (1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring within the time the inventories were administered to the field; and (4) personnel in their jobs less than 6 weeks. Participants were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Human Resources Directorate, Armstrong Laboratory.

Each individual completing the inventory first filled in an identification and biographical information section and then checked each task he or she currently performed on the job. After checking tasks performed, each individual rated tasks checked on a 9-point scale showing

relative time spent on that task, compared to other tasks performed. The ratings range from 1 (very small amount time spent) to 9 (very large amount time spent).

To determine relative time spent for each task, all incumbent's ratings are assumed to account for 100 percent of job time. The ratings are, therefore, summed and each individual task rating is divided by the total of all task ratings and subsequently multiplied by 100 to provide a relative percentage of time spent on each task.

### Survey Sample

Personnel were selected to participate in this study to ensure an accurate representation across MAJCOMs and paygrades. Table 1 reflects the percentage, by MAJCOM, of assigned and sampled AFSC 4M0X1 individuals. The 359 respondents in the final sample represent 75 percent of all assigned AFSC 4M0X1 personnel. These data are displayed showing assigned and sampled populations, based on the current MAJCOM structure. This table demonstrates that the sample closely approximates the MAJCOM representation of AFSC 4M0X1 members. Table 2 reflects the percentage distribution by paygrade groups. This table further emphasizes the sample accurately reflects the overall career ladder population.

### Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. To obtain the needed task factor data, selected senior AFSC 4M0X1 personnel (generally E-6 or E-7 craftsmen) also completed a second booklet for either training emphasis (TE) or task difficulty (TD). The TE and TD booklets were processed separately from the job inventories. The information gained from these task factor data is used in various analysis and is a valuable part of the training decision process.

Training Emphasis (TE). Individuals completing TE booklets were asked to rate tasks on a 10-point scale (from no training required to extremely high amounts of training required). TE is a rating of which tasks require structured training for first-enlistment personnel. Structured training is defined as training provided at resident technical schools, field training detachments (FTD), mobile training teams (MTT), formal on-the-job training (OJT), or any other organized training method. TE data were independently collected from 51 experienced 7-skill level personnel stationed worldwide. The interrater reliability for these raters was good, indicating there was strong agreement among raters concerning which tasks required some form of structured training and which did not. In this specialty, tasks have an average TE rating of 2.77 and a standard deviation of 2.02; tasks considered high in TE have ratings of 4.79 and above. TE rating data may also be used to rank order tasks indicating those tasks which senior NCOs in the field consider the most important for first-enlistment personnel to know how to perform.

Task Difficulty (TD). Each individual completing a TD booklet was asked to rate all of the tasks on a 9-point scale (from extremely low to extremely high) as to the relative difficulty of each task in the inventory. Difficulty is defined as the length of time required for the average incumbent to learn how to perform the task. TD data were independently collected from 55 experienced 7-skill level personnel stationed worldwide. Interrater reliability was excellent, reflecting very strong agreement among raters. Ratings were standardized so tasks have an average difficulty of 5.00, with a standard deviation of 1.00. The resulting data yielded a rank ordering of tasks indicating the degree of difficulty for each task in the inventory.

When used in conjunction with primary criterion of percent members performing, TD and TE ratings can provide insights into first-enlistment personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction which support entry-level jobs.

TABLE 1  
MAJCOM REPRESENTATION IN SAMPLE

<u>COMMAND</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
ACC	37	33
AFMC	24	23
AETC	21	24
AMC	8	10
AFSPACE	3	3
PACAF	3	3
USAFE	3	3
AF ELEM	1	1

TOTAL ASSIGNED = 481

TOTAL SURVEYED = 442

TOTAL IN SAMPLE = 359

PERCENT OF ASSIGNED IN SAMPLE = 75%

PERCENT OF SURVEYED IN SAMPLE = 81%



TABLE 2  
PAYGRADE DISTRIBUTION OF SAMPLE

<u>PAYGRADE</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
E-1 to E-3	26	25
E-4	27	30
E-5	24	23
E-6	12	11
E-7	8	8
E-8	2	2
E-9	1	1

## **SPECIALTY JOBS**

### **(Career Ladder Structure)**

The first step in the analysis process is to identify the structure of the career ladder in terms of the jobs the respondents perform. The Comprehensive Occupational Data Analysis Programs (CODAP) assist by creating an individual job description for each respondent based on tasks performed and relative amount of time spent on tasks. The CODAP automated job clustering program then compares all individual job descriptions, locates the two descriptions with the most similar tasks and time spent ratings, and combines them to form a composite job description. In successive stages, CODAP either adds new members to this initial group, or forms new groups based on similarity of tasks and time spent ratings.

The basic group used in the hierarchical clustering process is the job. When two or more jobs have a substantial degree of similarity in tasks performed and time spent performing tasks, they are grouped together and identified as a cluster. The structure of the career ladder is then defined in terms of jobs and clusters of jobs.

### Overview of Specialty Jobs

Based on analysis of tasks performed and amount of time spent performing each task, seven independent jobs and one cluster of jobs were identified. Figure 1 illustrates the jobs performed by AFSC 4M0X1 personnel.

A listing of this cluster and independent jobs (IJ) is provided below. The stage (STG) number shown beside each title references computer-printed information, while the letter "N" represents the number of personnel in each group.

- I. Entry Level Aerospace Physiology Technician  
Independent Job (STG 32, N=22)
  
- II. Aerospace Physiology Technician  
Job Cluster (STG 20, N=243)
  - IIa. Hypobaric Chamber Equipment  
Maintenance Job (STG 47, N=45)
  
  - IIb. Hypobaric Chamber Instructor  
Job (STG 43, N=29)
  
  - IIc. Parasail/Ejection Seat Instructor  
Job (STG 69, N=60)
  
  - IId. NCOIC Operations Job  
(STG 50, N=53)

Ile. NCOIC Maintenance Job  
(STG 61, N=51)

III. Hyperbaric Chamber Equipment Maintenance  
Independent Job (STG 31, N=6)

IV. Hyperbaric Chamber Independent Job  
(STG 30, N=9)

V. Research Chamber Independent Job  
(STG 22, N=5)

VI. Pressure Suit Independent Job  
(STG 37, N=29)

VII. Training Independent Job  
(STG 46, N=6)

VIII. Superintendent Independent Job (STG 35, N=12)

The respondents forming these groups account for 92 percent of the survey sample. The remaining 8 percent were performing tasks which did not group with any defined jobs. Some of the job titles given by respondents which were representative of these personnel include Centrifuge Technician and Administration Specialist.

### AEROSPACE PHYSIOLOGY JOBS AFSC 4M0X1

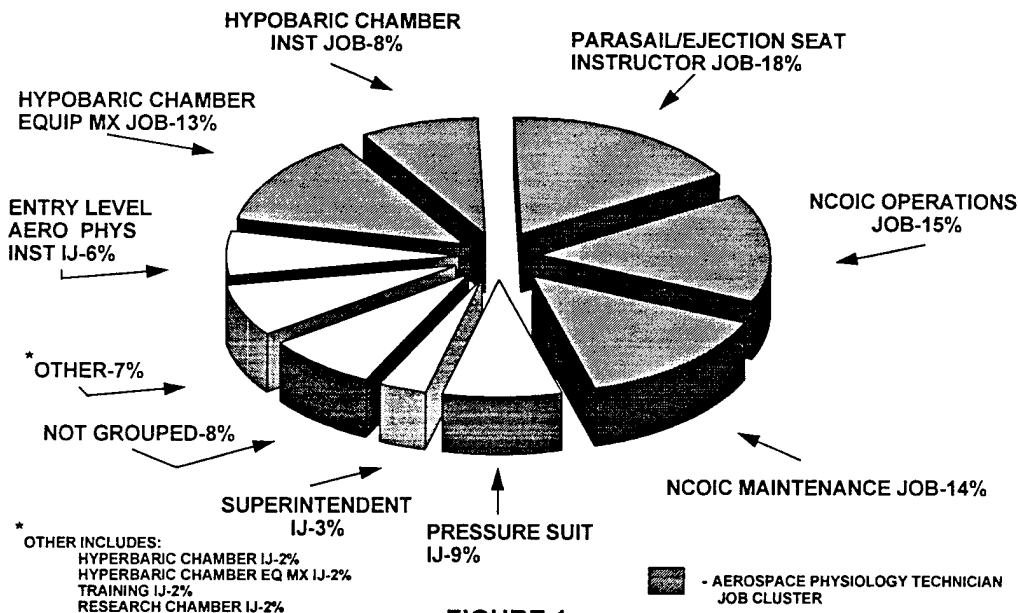


FIGURE 1

TABLE 3

## AVERAGE PERCENT TIME SPENT ON DUTIES BY CAREER LADDER JOBS

DUTIES	ENTRY LEVEL JOB (STG32)	AERO PHYS TECHNICIAN CLUSTER (STG20)	HYPOBARIC EQUIPMENT MAINTENANCE (STG47)	HYPOBARIC CHAMBER INSTRUCTOR (STG43)	PARASAIL/ EJECTION SEAT INSTRUCTOR (STG69)
A ORGANIZING AND PLANNING	7	9	3	8	7
B DIRECTING AND CONTROLLING	*	5	*	3	3
C INSPECTING AND EVALUATING	*	6	1	2	3
D TRAINING	13	12	5	16	15
E PERFORMING ADMINISTRATIVE FUNCTIONS	12	10	12	10	9
F CONDUCTING AEROSPACE PHYSIOLOGY INSTRUCTION	7	20	14	29	28
G OPERATING OR MAINTAINING HYPOBARIC CHAMBERS	37	18	32	25	15
H PERFORMING HAAMS ACTIVITIES	*	2	*	2	*
I OPERATING OR MAINTAINING HYPERBARIC CHAMBERS	10	4	7	0	3
J PERFORMING ACTIVITIES ON LIFE SUPPORT EQUIPMENT	10	8	18	5	4
K PERFORMING PRESSURE SUIT ACTIVITIES	*	*	*	0	0
L OPERATING AND MAINTAINING AIRCRAFT EMERGENCY ESCAPE AND SPECIAL PHYSIOLOGY TRAINERS	2	6	3	*	12
M PERFORMING PHYSIOLOGY RESEARCH ACTIVITIES	*	*	2	*	*

\* Denotes less than 1 percent

NOTE: Columns may not add up to 100 percent due to rounding

TABLE 3 (CONTINUED)

## AVERAGE PERCENT TIME SPENT ON DUTIES BY CAREER LADDER JOBS

DUTIES	NCOIC OPERATIONS (STG168)	NCOIC MAINTENANCE (STG61)	HYPERBARIC EQUIPMENT MAINTENANCE (STG31)	HYPERBARIC CHAMBER (STG30)	RESEARCH CHAMBER (STG522)
A ORGANIZING AND PLANNING	18	8	14	9	11
B DIRECTING AND CONTROLLING	11	5	7	3	3
C INSPECTING AND EVALUATING	13	7	12	2	7
D TRAINING	15	8	6	4	4
E PERFORMING ADMINISTRATIVE FUNCTIONS	8	14	21	26	9
F CONDUCTING AEROSPACE PHYSIOLOGY INSTRUCTION	12	16	*	2	7
G OPERATING OR MAINTAINING HYPOBARIC CHAMBERS	9	17	7	*	19
H PERFORMING HAAMS ACTIVITIES	5	2	0	0	0
I OPERATING OR MAINTAINING HYPERBARIC CHAMBERS	4	2	13	42	0
J PERFORMING ACTIVITIES ON LIFE SUPPORT EQUIPMENT	4	*	8	9	7
K PERFORMING PRESSURE SUIT ACTIVITIES	*	10	0	0	0
L OPERATING AND MAINTAINING AIRCRAFT EMERGENCY ESCAPE AND SPECIAL PHYSIOLOGY TRAINERS	*	11	*	0	0
M PERFORMING PHYSIOLOGY RESEARCH ACTIVITIES	*	*	11	3	33

\* Denotes less than 1 percent

NOTE: Columns may not add up to 100 percent due to rounding

TABLE 3 (CONTINUED)

## AVERAGE PERCENT TIME SPENT ON DUTIES BY CAREER LADDER JOBS

DUTIES	PRESSURE SUIT (STG37)	TRAINING (STG46)	SUPERINTENDENT (STG35)
A ORGANIZING AND PLANNING	1	11	27
B DIRECTING AND CONTROLLING	2	10	15
C INSPECTING AND EVALUATING	1	4	22
D TRAINING	3	45	8
E PERFORMING ADMINISTRATIVE FUNCTIONS	3	5	7
F CONDUCTING AEROSPACE PHYSIOLOGY INSTRUCTION	4	4	9
G OPERATING OR MAINTAINING HYPOBARIC CHAMBERS	14	4	6
H PERFORMING HAAMS ACTIVITIES	*	0	0
I OPERATING OR MAINTAINING HYPERBARIC CHAMBERS	8	7	*
J PERFORMING ACTIVITIES ON LIFE SUPPORT EQUIPMENT	6	*	*
K PERFORMING PRESSURE SUIT ACTIVITIES	57	7	1
L OPERATING AND MAINTAINING AIRCRAFT EMERGENCY ESCAPE AND SPECIAL PHYSIOLOGY TRAINERS	*	*	3
M PERFORMING PHYSIOLOGY RESEARCH ACTIVITIES	*	2	*

\* Denotes less than 1 percent

NOTE: Columns may not add up to 100 percent due to rounding

TABLE 4

## SELECTED BACKGROUND DATA FOR AFSC 4M0X1 CAREER LADDER JOBS

	ENTRY LEVEL <u>JOB</u>	AERO PHYS TECHNICIAN <u>CLUSTER</u>	HYPOBARIC EQUIPMENT <u>MAINTENANCE</u>	HYPOBARIC CHAMBER <u>INSTRUCTOR</u>	PARASAIL/ EJECTION SEAT <u>INSTRUCTOR</u>
NUMBER IN GROUP	22	243	45	29	60
PERCENT OF SAMPLE	6%	68%	13%	8%	18%
DAFSC DISTRIBUTION:					
4M031	82%	15%	38%	28%	10%
4M051	18%	53%	60%	59%	72%
4M071	0%	28%	2%	10%	18%
4M091	0%	4%	0%	3%	0%
PAYGRADE DISTRIBUTION:					
E-1 to E-3	72%	22%	52%	48%	13%
E-4	23%	29%	42%	32%	45%
E-5	5%	26%	4%	10%	34%
E-6	0%	12%	2%	3%	8%
E-7	0%	8%	0%	7%	0%
E-8	0%	2%	0%	0%	0%
E-9	0%	1%	0%	0%	0%
AVERAGE NUMBER OF TASKS PERFORMED	30	93	66	50	82
AVERAGE MONTHS TAFMS	25	100	43	60	90
PERCENT IN FIRST ENLISTMENT	91%	33%	74%	61%	29%
PERCENT SUPERVISING	0%	46%	4%	17%	42%

TABLE 4 (CONTINUED)

## SELECTED BACKGROUND DATA FOR AFSC 4M0X1 CAREER LADDER JOBS

	<u>NCOIC OPERATIONS</u>	<u>NCOIC MAINTENANCE</u>	<u>HYPERBARIC EQUIPMENT MAINTENANCE</u>	<u>HYPERBARIC CHAMBER</u>	<u>RESEARCH CHAMBER</u>
NUMBER IN GROUP	53	51	6	9	5
PERCENT OF SAMPLE	15%	14%	2%	2%	2%
<u>DAFSC DISTRIBUTION:</u>					
4M031					
4M051	0%	8%	0%	0%	20%
4M071	21%	55%	50%	78%	40%
4M091	62%	37%	50%	22%	33%
	17%	0%	0%	0%	0%
<u>PAYGRADE DISTRIBUTION:</u>					
E-1 to E-3					
E-4	0%	12%	0%	0%	0%
E-5	8%	22%	17%	56%	40%
E-6	25%	44%	66%	33%	60%
E-7	23%	20%	0%	11%	0%
E-8	31%	2%	17%	0%	0%
E-9	9%	0%	0%	0%	0%
	4%	0%	0%	0%	0%
AVERAGE NUMBER OF TASKS PERFORMED	116	136	104	36	31
AVERAGE MONTHS TAFMS	183	102	131	104	108
PERCENT IN FIRST ENLISTMENT	19%	32%	0%	22%	0%
PERCENT SUPERVISING	87%	61%	67%	11%	40%



TABLE 4 (CONTINUED)

## SELECTED BACKGROUND DATA FOR AFSC 4M0X1 CAREER LADDER JOBS

	NUMBER IN GROUP PERCENT OF SAMPLE	PRESSURE SUIT	TRAINING	SUPERINTENDENT
	29 9%	6 2%	12 3%	
DAFSC DISTRIBUTION:				
4M031	38%	17%	0%	
4M051	62%	66%	8%	
4M071	0%	17%	50%	
4M091	0%	0%	42%	
PAYGRADE DISTRIBUTION:				
E-1 to E-3	45%	0%	0%	
E-4	45%	50%	8%	
E-5	10%	50%	0%	
E-6	0%	0%	17%	
E-7	0%	0%	50%	
E-8	0%	0%	25%	
E-9	0%	0%	0%	
AVERAGE NUMBER OF TASKS PERFORMED	57	69	68	
AVERAGE MONTHS TAFMS	47	99	215	
PERCENT IN FIRST ENLISTMENT	59%	0%	0%	
PERCENT SUPERVISING	10%	17%	100%	

### Group Descriptions

The following paragraphs contain brief descriptions of the cluster and seven independent jobs identified in the career ladder structure analysis. Appendix A lists representative tasks performed by identified independent jobs and the job cluster. Table 3 displays time spent on duties, while Table 4 provides demographic information for each job discussed in this report.

Another way to illustrate these jobs is to summarize tasks performed into groups of tasks (task modules). This allows for a very concise display of where job incumbents spend most of their time and develops a comprehensive overview of each job. The task module display shows the number of tasks included in a module, the average percent time spent on that module, the cumulative amount of time spent on the listed modules, and finally, the average percent members performing each particular task module. These modules were identified through CODAP co-performance clustering which determines the average probability that members who perform one task will also perform a second task or group of related tasks. Representative task modules are listed as part of each job description. The list of modules, with respective tasks, is presented in Appendix B.

I. ENTRY-LEVEL AEROSPACE PHYSIOLOGY TECHNICIAN IJ (STG 32). The 22 members of this cluster represent 6 percent of the total survey sample. AFSC 4M0X1 personnel perform a variety of Aerospace Physiology functions, however, certain tasks, such as serving as hypobaric chamber flight crew members, are common to the majority of the career field. The entry-level personnel spend most of their time working in these common crew positions and helping prepare students for chamber flights (See Table 3). Representative tasks for this job include:

- Serve as chamber operator during hypobaric chamber flights, other than research flights
- Serve as crew chief during hypobaric chamber flights, other than research flights
- Serve as recorder during hypobaric chamber flights, other than research flights
- Serve as lock operator during hypobaric chamber flights, other than research flights
- Serve as inside observer during hypobaric chamber flights, other than research flights
- Schedule students for aerospace physiology training classes
- Treat chamber reactors for hypoxia
- Fit chamber students or patients with oxygen hoods or masks
- Clean flight helmets of chamber students
- Fit chamber students with flight helmets

ENTRY-LEVEL TECHNICIAN JOB	
Number of members	22
Percent of total sample	6%
Average number of tasks performed	30
Average time in present job	2 yrs
Average time in career field	2 yrs
Average TAFMS	2 yrs
Predominant DAFSC	4M031
Predominant paygrades	E-2/E-3
Predominant MAJCOM	ACC

The majority of entry-level personnel, as seen in Table 4, hold the 3- skill level and average time in service, as measured by Total Active Federal Military Service (or TAFMS), for this group is only 2 years. Incumbents have little experience in the career field and perform an average of only 30 tasks on the job.

Task module analysis shows they spend almost 45 percent of their job time performing 15 hypobaric chamber crew tasks. Data show that members spend almost 10 percent of job time performing managerial duties; however, the six tasks that comprise the Managerial Duties task module primarily relate to preparing training and participating in administrative functions. The managerial nature of the job, therefore, is actually minimal. Further analysis shows that some entry-level personnel also perform hyperbaric chamber operations as this module accounts for nearly 10 percent of job time. Representative task modules for this cluster include:

TM	Module title	No. of Tsk	Percent Time Spent (Sum)	Percent Time Spent (Cumulative)	Average Percent Members Performing
0023	Hypobaric Chamber Crew Duties	15	44.9	44.9	72
0014	Managerial Duties	6	9.8	54.7	89
0010	Hyperbaric Chamber Operations	8	9.8	64.5	37
0007	Administrative Duties	8	6.5	70.9	26
0005	AFSC 4M0X1 Training	22	6.3	77.2	9
0020	Administrative Duties	14	3.5	80.8	9

II. AEROSPACE PHYSIOLOGY TECHNICIAN JOB CLUSTER (STG 20). The 243 members of this cluster of jobs account for 68 percent of the career field. The work members of this large group perform is core to the career ladder as it primarily involves conducting aerospace physiology instruction and operating and maintaining hypobaric chambers (see Table 3). Five distinct jobs are present in the cluster. These jobs will be discussed separately in the following job descriptions. The tasks members of these jobs share in common include serving as hypobaric chamber crew members and providing chamber students with aerospace physiology instruction. Representative tasks for this cluster of jobs include:

- Serve as chamber operator during hypobaric chamber flights, other than research flights
- Serve as crew chief during hypobaric chamber flights, other than research flights
- Serve as recorder during hypobaric chamber flights, other than research flights
- Serve as lock operator during hypobaric chamber flights, other than research flights
- Serve as inside observer during hypobaric chamber flights, other than research flights

AEROSPACE PHYSIOLOGY TECHNICIAN JOB CLUSTER	
Number of members	243
Percent of total sample	68%
Average number of tasks performed	93
Average time in present job	2 yrs
Average time in career field	6.6 yrs
Average TAFMS	8.3 yrs
Predominant DAFSC	4M051
Predominant paygrades	E-4/E-5
Predominant MAJCOM	ACC

- Brief rapid decompression during chamber flights
- Treat chamber reactors for hypoxia
- Brief chamber flight preflight or postflight procedures
- Brief use of emergency and portable oxygen systems during hypobaric chamber flights
- Serve as lecturer observer during hypobaric chamber flights, other than research chamber flights

The members of this cluster have moderate experience in the career field with an average of 8 years TAFMS (See Table 4). They predominantly hold 5- skill level positions and reside in Air Combat Command (ACC). The work in the cluster is more broad in range than that of the entry-level job as members perform an average of 93 tasks, more than twice as many as their junior counterparts.

Task module analyses show that Aerospace Physiology Technician job cluster members perform tasks evenly across a number of task modules rather than concentrating their time in one or two key areas. Representative task modules for this cluster include:

<u>TM</u>	<u>Module title</u>	<u>No. of Tsk</u>	<u>Percent Time Spent</u> <u>(Sum) (Cumulative)</u>		<u>Average Percent Members Performing</u>
0023	Hypobaric Chamber Crew Duties	15	16.6	16.6	84
0020	Aerospace Physiology Classroom Instruction	14	12.8	29.4	69
0014	Managerial Duties	6	4.1	33.5	57
0013	Egress Instruction	10	5.0	38.5	45
0009	General Equipment Maintenance	29	11.1	49.6	35
0010	Hyperbaric Chamber Operations	8	2.9	52.5	32
0007	Administrative Duties	8	2.7	55.2	28
0005	AFSC 4M0X1 Training	22	6.8	61.9	29
0002	Parachute/Ejection Instruction	22	5.8	67.7	24
0006	Organizational/Supervisory Duties	76	18.7	86.4	28

IIa. **HYPOBARIC CHAMBER EQUIPMENT MAINTENANCE JOB (STG 47).** The 45 members of this job comprise 13 percent of the survey sample. Like all respondents in the Aerospace Physiology Technician job cluster, they perform general hypobaric chamber crew duties. The factor that distinguishes their work from that of the other members of the cluster is they spend 32 percent of their time operating or maintaining hypobaric chambers (See Table 3), which is almost twice as much time maintaining hypobaric chambers as members of any other job in the cluster with the exception of the hypobaric chamber instructor job. Additionally, they spend far more time performing activities on life support equipment than any other group in the cluster. Examples of life support equipment activities they often perform include assembling life support equipment and inspecting pressure-demand oxygen components. Representative tasks for members of this job include:

- Serve as recorder during hypobaric chamber flights, other than research flights
- Serve as inside observer during hypobaric chamber flights, other than research flights
- Serve as crew chief during hypobaric chamber flights, other than research flights
- Perform general maintenance on hypobaric chambers
- Annotate inspections or maintenance forms
- Assemble life support equipment, such as oxygen masks
- Annotate records on status or inspections of equipment
- Perform general maintenance on vacuum pumps
- Perform periodic inspections of hypobaric chamber assemblies
- Inspect pressure-demand oxygen components

Personnel in this job are the most junior members of the Aerospace Physiology Technician job cluster with an average of 3 1/2 years TAFMS. Like all jobs in the cluster, with the exception of the NCOIC Operations job, personnel primarily work in 5- skill level positions (See Table 4).

Task module analysis also clearly shows these personnel focus primarily on hypobaric chamber crew member functions and equipment maintenance; they spend almost 56 percent of their time performing tasks in these two task modules. Further task module analysis shows that, to a lesser extent, the work involves operating and maintaining hyperbaric chambers. Representative task modules for this job include:

HYPOBARIC CHAMBER EQUIPMENT MAINTENANCE IJ	
Number of members	45
Percent of total sample	13%
Average number of tasks performed	66
Average time in present job	1.6 yrs
Average time in career field	2.8 yrs
Average TAFMS	3.6 yrs
Predominant DAFSC	4M051
Predominant paygrades	E-3/E-4
Predominant MAJCOM	ACC

<u>TM</u>	<u>Module title</u>	<u>No. of Tsk</u>	<u>Percent Time Spent (Sum) (Cumulative)</u>		<u>Average Percent Members Performing</u>
0023	Hypobaric Chamber Crew Duties	15	23.9	23.9	89
0009	General Equipment Maintenance	29	31.7	55.6	67

0020	Aerospace Physiology Classroom Instruction	14	10.0	65.6	44
0010	Hyperbaric Chamber Operations	8	4.1	1.7	40
0018	Routine Hyperbaric Chamber Maintenance	7	2.7	12.4	27
0014	Managerial Duties	6	2.3	74.7	32
0013	Egress Instruction	10	2.8	77.5	22
0001	Supply Duties	19	3.8	81.4	15

Iib. HYPOBARIC CHAMBER INSTRUCTOR JOB (STG 43). The 29 members of this job represent 8 percent of the survey sample. They spend 54 percent of their job time conducting aerospace physiology instruction and operating hypobaric chambers (See Table 3). They are characterized by a greater focus on performing instructional and training related tasks than any other group. Table 3 shows they spend their job time performing duties similar to the Parasail/Ejection Seat Instructor job personnel except that they spend more time operating and maintaining hypobaric chambers and spend virtually no time operating and maintaining aircraft emergency escape and special physiology trainers. Representative tasks are presented below:

HYPOBARIC CHAMBER INSTRUCTOR IJ	
Number of members	29
Percent of total sample	8%
Average number of tasks performed	50
Average time in present job	2.6 yrs
Average time in career field	4.2 yrs
Average TAFMS	5 yrs
Predominant DAFSC	2M051
Predominant pay grade	E-3/E-4
Predominant MAJCOM	ACC

- Conduct classroom instruction concerning use of oxygen masks
- Conduct classroom instruction concerning types of oxygen storage systems
- Conduct classroom instruction concerning use of continuous flow passenger oxygen systems
- Serve as lock operator during hypobaric chamber flights, other than research flights
- Serve as inside observer during hypobaric chamber flights, other than research flights
- Brief rapid decompression during chamber flights
- Treat chamber reactors for hypoxia
- Brief chamber flight preflight or postflight procedures
- Brief use of emergency and portable oxygen systems during hypobaric chamber flights
- Serve as lecturer observer during hypobaric chamber flights, other than research chamber flights

Job incumbents predominately hold the 5-skill level and average 5 years TAFMS (see Table 4). This instructional work is very narrow in scope, and members perform an average of only 50 tasks, the fewest of any job in the cluster.

Task module analysis show that members spend more time performing tasks in the Aerospace Physiology Classroom Instruction module than members of any other job group. Additionally, they perform some supervisory, managerial, and training functions. Representative task modules for this job include:

TM	Module title	No. of Tks	Percent Time Spent (Sum) (Cumulative)		Average Percent Members Performing
0023	Hypobaric Chamber Crew Duties	15	27.9	27.9	78
0020	Aerospace Physiology Classroom Instruction	4	24.2	52.1	73
0014	Managerial Duties	6	6.8	58.8	54
0007	Administrative Duties	8	5.6	64.4	32
0005	AFSC 4M0X1 Training	22	10.0	74.4	24
0013	Egress Instruction	10	4.5	78.9	26
0004	HAAMS Duties	12	2.4	81.2	16

IIc. PARASAIL/EJECTION SEAT INSTRUCTOR JOB (STG 69) The 60 members of this job account for 17% of the survey sample. They perform most of the same duties as Hypobaric Chamber Instructor job members, but they also spend 12 percent of their time operating and maintaining emergency escape and special physiology trainers, such as spatial disorientation trainers and ejection seat trainers (see Table 3). Conversely, they spend only 15 percent of their time operating or maintaining hypobaric chambers compared to the Hypobaric Chamber Instructors who spend 25 percent of their time on such tasks. Representative tasks for this job include:

- Brief rapid decompression during hypobaric chamber flights
- Conduct parachute landing fall (PLF) training
- Brief use of personal protective equipment
- Treat chamber reactors for hyperventilation
- Brief use of spatial disorientation trainers
- Instruct treatment procedures for hyperventilation
- Instruct and evaluate students on PLF platforms
- Brief in-flight egress procedures
- Brief ground egress escape procedures
- Brief ejection seat trainer pre-ejection procedures

PARASAIL/EJECTION SEAT INSTRUCTOR Job	
Number of members	60
Percent of total sample	17%
Average number of tasks performed	82
Average time in present job	3 yrs
Average time in career field	6.3 yrs
Average TAFMS	7.5 yrs
Predominant DAFSC	4M051
Predominant paygrades	E-4/E-5
Predominant MAJCOM	AETC

Parasail/Ejection Seat Instructor job members predominately hold 5-skill level positions and average 7 1/2 years TAFMS (See Table 4). They are the most senior non-supervisor job group in the Aerospace Physiology Technician job cluster, junior only to the NCOIC Operations and NCOIC Maintenance job members. The nature of the work involved with this job is more broad as members must perform hypobaric chamber instruction and operation tasks as well as emergency escape and special physiology trainer duties. Consequently, incumbents perform an average of 90 tasks compared to Aerospace Physiology Instructors who perform only 60 tasks on average. Another key difference is that members of this job are primarily assigned to Air Education and Training Command (AETC) rather than ACC, as emergency escape and special physiological training is necessary in programs such as undergraduate pilot training (UPT), that are under AETC control.

Task module analyses show members spend almost 9 percent of their time performing tasks in the Egress Instruction task module, more than members of any other job group,

Representative task modules for this cluster include:

<u>TM</u>	<u>Module title</u>	<u>No. of Tasks</u>	<u>Percent Time Spent</u> <u>(Sum) (Cumulative)</u>		<u>Average Percent Members Performing</u>
0023	Hypobaric Chamber Crew Duties	15	15.9	15.9	82
0020	Aerospace Physiology Classroom Instruction	14	14.6	30.6	79
0013	Egress Instruction	10	8.7	39.2	67
0014	Managerial Duties	6	5.2	44.4	61
0002	Parachute/Ejection Instruction	22	15.4	59.8	53
0007	Administrative Duties	8	3.6	63.3	32
0005	AFSC 4M0X1 Training	22	9.6	72.9	35
0010	Hyperbaric Chamber Operations	8	3.5	76.4	32
0006	Organizational/Supervisory Duties	76	13.0	89.4	17



IId. NCOIC OPERATIONS JOB (STG 50). The 53 members of this job comprise 15% of the survey sample. This job is one of two jobs subsumed in the Aerospace Physiology Technician job cluster involving a combination of technical and supervisory duties. Members spend 21 percent of their job time conducting aerospace physiology instruction and operating and maintaining hypobaric chambers, and 42 percent of their job time performing supervisory and managerial duties (see Table 3). They are essentially a collective group of first-line supervisors. Representative tasks which distinguish this job from others include:

- Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting
- Plan or schedule work assignments or priorities
- Write EPRs
- Establish performance standards for subordinates
- Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOP)
- Determine or establish work procedures
- Develop work procedures
- Counsel personnel on personal or military-related problems
- Supervise Aerospace Physiology Journeymen (AFSC 4M051)
- Establish work schedules

NCOIC OPERATIONS JOB	
Number of members	53
Percent of total sample	15%
Average number of tasks performed	116
Average time in present job	4.3 yrs
Average time in career field	11.6 yrs
Average TAFMS	15.3 yrs
Predominant DAFSC	4M071
Predominant paygrades	E-5/E-7
Predominant MAJCOM	ACC/AFMC

These incumbents are the most senior members of the job cluster with an average of over 15 years TAFMS (see Table 4). They, along with the NCOIC Maintenance job members, are the only members of the job cluster that predominantly hold 7- skill level positions. The dual technical/supervisory nature of the work involved is evident as these personnel perform an average of 116 tasks on their jobs, far more than any other job in the cluster with the exception of the NCOIC Maintenance personnel who perform an average of 136 tasks.

Task module analysis show members spend almost half their time performing tasks in the Organizational/Supervisory Duties task module, while still spending a considerable amount of time conducting aerospace physiology instruction and performing hypobaric chamber crew duties. Representative task modules for this cluster include:

TM	Module title	No. of Tsk	Percent Time Spent		Average Percent Members Performing
			(Sum)	(Cumulative)	
0014	Managerial Duties	6	4.6	4.6	77
0023	Hypobaric Chamber Crew Duties	15	9.8	14.3	76

0020	Aerospace Physiology Classroom Instruction	14	8.0	22.4	61
0006	Organizational/Supervisory Duties	76	41.0	63.4	61
0004	HAAMS Duties	12	5.2	68.6	36
0010	Hyperbaric Chamber Operations	8	3.2	71.8	47
0005	AFSC 4M0X1 Training	22	8.4	80.2	46

Ile. NCOIC MAINTENANCE JOB (STG 61). The 51 members of this job account for 14 percent of the survey sample. This job is the final job in the Aerospace Physiology Technician job cluster. Like the NCOIC Operations job members, these incumbents perform first-line supervisor duties. The main difference in the work they perform is they do not perform supervisory duties to the extent that the NCOIC Operations personnel do. Table 3 shows a good comparison of duty time between the groups. Notice that NCOIC Operations personnel spend 42 percent of their time performing the organizing and supervisory tasks in duties A through C, while the NCOIC Maintenance incumbents spend only 20 percent of their time performing these functions. The NCOIC Maintenance personnel, on the other hand, spend 21 percent of their time operating and maintaining Aerospace Physiology equipment and performing pressure suit activities. Representative tasks for this cluster include:

NCOIC MAINTENANCE JOB	
Number of members	51
Percent of total sample	14%
Average number of tasks performed	136
Average time in present job	3.3 yrs
Average time in career field	6.9 yrs
Average TAFMS	8.5 yrs
Predominant DAFSC	4M051
Predominant paygrades	E-5
Predominant MAJCOM	AETC

- Brief chamber flight preflight or postflight procedures
- Serve as lecturer observer during hypobaric chamber flights, other than research flights
- Annotate records on status or inspections of equipment
- Annotate inspection or maintenance forms
- Clean aerospace physiology equipment, training aids, and devices
- Perform general maintenance on hypobaric chambers
- Perform daily inspections of hypobaric chamber assemblies
- Store equipment, tools, or supplies
- Assemble life support equipment, such as oxygen masks
- Perform general maintenance on vacuum pumps

NCOIC Maintenance job personnel are the second most senior members of the cluster with an average of 8 1/2 years TAFMS (see Table 4). Unlike NCOIC Operations incumbents, they predominately hold 5-skill level positions and primarily work in AETC rather than ACC.

Task module analyses show they spend moderate amounts of time working in many tasks modules rather than spending considerable worktime on one or two key task areas. The broad

nature of the work is also highlighted by the fact that members perform an average of 136 tasks, more than any other job group in the cluster. Representative task modules for this job include:

<u>TM</u>	<u>Module title</u>	<u>No. of Tsk</u>	<u>Percent Time Spent</u> (Sum) (Cumulative)		<u>Average Percent Members Performing</u>
0023	Hypobaric Chamber Crew Duties	15	11.9	11.9	96
0020	Aerospace Physiology Classroom Instruction	14	10.9	22.8	88
0009	General Equipment Maintenance	29	15.7	38.4	72
0013	Egress Instruction	10	4.8	43.2	62
0001	Supply Duties	19	7.4	50.6	50
0014	Managerial Duties	6	2.3	52.9	55
0019	Night Vision/Spatial Disorientation Equipment Maintenance	5	1.8	54.8	56
0002	Parachute/Ejection Instruction	22	6.3	61.1	38
0006	Organizational/Supervisory Duties	76	20.3	81.4	39
0012	Parachute/Ejection Equipment Maintenance	19	4.5	85.9	35

III. HYPERBARIC CHAMBER EQUIPMENT MAINTENANCE IJ (STG 31). The six members of this job account for 2 percent of the survey sample. These incumbents are the first job members discussed that perform work primarily outside of the conventional aerospace physiology technician arena. They spend more time operating and maintaining hyperbaric chambers and work very little with hypobaric chambers. Furthermore, they spend 11 percent of their time performing physiology research activities (See Table 3). The primary factor that sets their work apart from the Hyperbaric Chamber job members is they spend 33 percent of their time performing organizing and supervisory duties, and 21 percent of their time performing administrative functions. They essentially perform the function of hyperbaric chamber maintenance supervisors. Representative tasks for this job include:

HYPERBARIC CHAMBER EQUIPMENT MAINTENANCE IJ	
Number of members	6
Percent of total sample	2%
Average number of tasks performed	104
Average time in present job	3 yrs
Average time in career field	10.7 yrs
Average TAFMS	10.9 yrs
Predominant DAFSC	4M051/4M071
Predominant paygrades	E-5
Predominant MAJCOM	AFMC

- Direct equipment maintenance or utilization
- Store equipment, tools, or supplies
- Annotate inspection or maintenance forms
- Coordinate maintenance or supply matters with appropriate agencies
- Compile information for records, reports, or logs
- Maintain records on status or inspections of equipment

- Plan equipment or facility maintenance requirements
- Inventory equipment, tools, or supplies
- Maintain documentation on items requiring periodic inspections
- Annotate records on status or inspections of equipment

Hyperbaric Chamber Equipment Maintenance job members average nearly 11 years TAFMS and predominately hold either 5- or 7- skill level positions (see Table 4). They are also the first job incumbents mentioned primarily assigned to AFMC.

Task module analysis show, like other supervisor job members, they spend their time performing a wide range of duties including both technical, and administrative and supervisory duties. Representative task modules for this cluster include:

TM	Module title	No. of Tsk	Percent Time Spent (Sum)	(Cumulative)	Average Percent Members Performing
0018	Routine Hyperbaric Chamber Maintenance	7	4.7	4.7	67
0010	Hyperbaric Chamber Operations	8	4.9	9.5	54
0001	Supply Duties	19	11.4	21.0	55
0009	General Equipment Maintenance	29	15.0	36.0	52
0016	Research Chamber Crew Duties	7	3.6	39.6	40
0006	Organizational/Supervisory Duties	76	30.9	70.5	43
0023	Hypobaric Chamber Crew Duties	15	6.1	76.6	52
0014	Managerial Duties	6	2.3	78.9	40
0007	Administrative Duties	8	2.9	81.8	43

IV. HYPERBARIC CHAMBER IJ (STG 30). The nine members of this group account for only 2 percent of the survey sample. These personnel perform work similar to that of the Hyperbaric Chamber Equipment Maintenance job members. The key difference is they spend 29 percent more time operating or maintaining hyperbaric chambers and 19 percent less time performing organizing and supervisory duties (see Table 3). They are likely to perform hyperbaric chamber flight crew duties and routine administrative functions. Representative tasks for this cluster include:

- Load or remove patients in hyperbaric chambers
- Serve as crew chief and lock operator during hyperbaric chamber dives
- Serve as chamber operator during hyperbaric

HYPERBARIC CHAMBER IJ	
Number of members	9
Percent of total sample	2%
Average number of tasks performed	36
Average time in present job	3.3 yrs
Average time in career field	6.9 yrs
Average TAFMS	8.6 yrs
Predominant DAFSC	4MO51
Predominant paygrades	E-4
Predominant MAJCOM	AFMC

chamber dives

- Serve as inside observer during hyperbaric chamber dives
- Clean hyperbaric chambers
- Serve as recorder during hyperbaric chamber dives
- Serve as timekeeper during hyperbaric chamber dives
- Perform daily inspections of hyperbaric chamber assemblies
- Charge compressed-air flasks
- Perform daily inspections of low-pressure compressors

Hyperbaric Chamber job incumbents average about 8 1/2 years TAFMS and primarily hold 5-skill level positions (See Table 4). They, like all hyperbaric chamber personnel, are predominantly assigned to Air Force Material Command (AFMC).

Task module analyses show they spend almost 30 percent of their time performing tasks in the Hyperbaric Chamber Operation task module. They generally spend the remainder of their time performing various administrative and maintenance-related functions. The scope of the work they perform is narrow as they perform only an average of 36 tasks. Representative task modules for this cluster include:

TM	Module title	No. of Tasks	Percent Time Spent		Average Percent Members Performing
			(Sum)	(Cumulative)	
0010	Hyperbaric Chamber Operations	8	28.7	28.7	82
0018	Routine Hyperbaric Chamber Maintenance	7	12.1	40.8	57
0007	Administrative Duties	8	11.3	52.1	53
0001	Supply Duties	19	9.2	61.3	20
0014	Managerial Duties	6	2.8	64.2	24
0009	General Equipment Maintenance	29	9.8	73.9	15
0023	Hypobaric Chamber Crew Duties	15	4.3	78.3	7
0028	Organizational/Supervisory Duties	76	11.5	89.8	6

V. RESEARCH CHAMBER IJ (STG 22). The 5 members of this job represent 1 percent of the survey sample. Research chamber job incumbents have one of the most distinct jobs in the career ladder. They spend over half of their time operating and maintaining hypobaric chambers and performing physiological research functions (see Table 3). They also serve as crewmembers on research chamber flights in an experimental rather than instructional capacity. Distinct duties include fitting subjects for in-flight monitoring equipment and recording experimental data. Representative tasks for this job include:

- Size and fit research subjects with oxygen equipment
- Serve as chamber operator during research chamber flights
- Serve as inside observer during research chamber flights
- Serve as outside observer during research chamber flights
- Serve as recorder during research chamber flights
- Treat chamber reactors for mechanical effects of pressure change, such as decompression sickness
- Serve as crew chief during research chamber flights
- Serve as lock operator during research chamber flights
- Record experimental data
- Calibrate analytical devices, such as flowmeters or recording equipment

RESEARCH CHAMBER IJ	
Number of members	5
Percent of total sample	1%
Average number of tasks performed	31
Average time in present job	2.8 yrs
Average time in career field	8 yrs
Average TAFMS	9 yrs
Predominant DAFSC	4M051
Predominant paygrades	E-4/E-5
Predominant MAJCOM	AFMC

Research Chamber job members average about 9 years TAFMS and predominately hold 5- skill level positions in support of AFMC operations (see Table 4).

Task module analyses show that incumbents spend almost 22 percent of their job time performing the seven tasks in the Research Chamber Crew Duties task module, and they are the only job group routinely performing tasks in the In-Flight Equipment Monitoring task module. They accomplish tasks across a variety of task modules; however, their work is actually quite narrow in scope as they perform an average of only 31 tasks, the fewest of any job group in the survey except Entry-Level job personnel.

Representative task modules for this cluster include:

TM	Module title	No. of Tsk	Percent Time Spent (Sum) (Cumulative)		Average Percent Members Performing
0016	Research Chamber Crew Duties	7	21.7	21.7	77
0021	In-Flight Equipment Monitoring	4	6.2	27.9	40
0023	Hypobaric Chamber Crew Duties	15	13.8	41.7	29

0014	Managerial Duties	6	4.7	46.4	27
0007	Administrative Duties	8	6.1	51.5	18
0020	Aerospace Physiology Classroom Instruction	14	9.7	57.5	13
0009	General Equipment Maintenance	29	18.9	67.3	12
0006	Organizational/Supervisory Duties	76	2.2	86.2	9

VI. PRESSURE SUIT IJ (STG 37). The 29 members of the Pressure Suit job comprise 8 percent of the survey sample. Like the Research Chamber job members, their work is very different from the work generally performed in the career field. Pressure Suit job incumbents, primarily assigned to Beale AFB, spend over half of their time performing pressure suit support activities such as cleaning, packing, and inspecting full pressure suits. See Table 3 for a complete listing of time spent on duties. Due to the specific nature of the work, personnel receive most of their training at the operational level rather than at the Technical Training School. Representative tasks for this cluster include:

- Connect or disconnect crewmembers to aircraft systems
- Perform occupied full pressure suit integration tests
- Fill portable liquid oxygen (LOX) ventilation units
- Clean pressure suits
- Perform periodic inspections of full pressure suits
- Pack pressure suit assemblies for shipment
- Remove or replace full pressure suit components
- Assemble or disassemble pressure suit hardware, such as neck rings or urine collection valves
- Perform preflight or postflight inspections of low-flight oxygen regulators
- Perform preflight or postflight inspections of full pressure suits

Incumbents generally have only moderate experience in the career ladder as they average only 4 years TAFMS (see Table 4). They, like the majority of AFSC 4M0X1 members, are primarily assigned to ACC.

Task module analyses show that these personnel spend almost 54 percent of their time performing pressure suit maintenance activities. Examples of these functions include cementing pressure suit assemblies, inspecting pressure suit assemblies, and isolating full pressure suit malfunctions. The narrow scope of their work is apparent as they spend over 80 percent of their

PRESSURE SUIT IJ	
Number of members	29
Percent of total sample	8%
Average number of tasks performed	57
Average time in present job	2.6 yrs
Average time in career field	3.2 yrs
Average TAFMS	3.9 yrs
Predominant DAFSC	4M051
Predominant paygrades	E-4
Predominant MAJCOM	ACC

time performing tasks in 4 task modules and, on average, they perform only 57 tasks. Representative task modules for this cluster include:

<u>TM</u>	<u>Module title</u>	<u>No. of Tsk</u>	<u>Percent Time Spent</u> <u>(Sum) (Cumulative)</u>		<u>Average Percent Members Performing</u>
0003	Pressure Suit Maintenance	42	53.8	53.8	57
0023	Hypobaric Chamber Crew Duties	15	16.1	69.9	68
0010	Hyperbaric Chamber Operations	8	6.8	76.7	69
0009	General Equipment Maintenance	29	6.2	82.9	16

VII. TRAINING IJ (STG 46). The six members of this job comprise 2 percent of the survey sample. Training personnel manage AFSC 4M0X1 training programs at Brooks AFB, Wright Patterson AFB, and Beale AFB. They spend 70 percent of their time performing managerial and training tasks such as planning and scheduling training, evaluating the effectiveness of training programs, and conducting training conferences or briefings (See Table 3). Representative tasks for this cluster include:

- Evaluate progress of trainees
- Evaluate training methods or techniques
- Plan or schedule training
- Evaluate effectiveness of training programs
- Counsel trainees on training progress
- Administer or score training tests
- Conduct training conferences or briefings
- Conduct OJT upgrade training
- Determine student training schedules
- Construct or develop training materials, aids, or devices

TRAINING IJ	
Number of members	6
Percent of total sample	2%
Average number of tasks performed	69
Average time in present job	1.8 yrs
Average time in career field	7.4 yrs
Average TAFMS	8.3 yrs
Predominant DAFCSC	4M051
Predominant paygrades	E-4/E-5
Predominant MAJCOM	ACC

Incumbents are primarily 5-skill level members, assigned to ACC, with approximately 8 1/2 years TAFMS (see Table 4).

Task module analyses show they spend almost 54 percent of their time performing tasks in the Training and Organizational/Supervisory Duties task modules. Their work is narrow in scope as they perform an average of only 69 tasks. Representative task modules for this cluster include:

<u>TM</u>	<u>Module title</u>	<u>No. of Tsk</u>	<u>Percent Time Spent</u> <u>(Sum) (Cumulative)</u>		<u>Average Percent Members Performing</u>
0005	AFSC 4M0X1 Training	22	29.0	29.0	80
0014	Managerial Duties	6	7.2	36.2	72



0010	Hyperbaric Chamber Operations	8	4.3	40.5	33
0006	Organizational/Supervisory Duties	76	28.4	68.8	26
0018	Routine Hyperbaric Chamber Maintenance	7	2.2	71.0	21
0023	Hypobaric Chamber Crew Duties	15	4.1	75.1	24
0007	Administrative Duties	8	1.7	76.9	19
0020	Aerospace Physiology Classroom Instruction	14	2.7	79.6	19
0003	Pressure Suit Maintenance	42	6.9	86.5	12

VIII. SUPERINTENDENT IJ (STG 35). The 12 members of this job comprise 3 percent of the survey sample. Unlike the first-line supervisor jobs previously discussed, these incumbents manage the career field and perform very few technical functions. They spend 64 percent of their time performing organizational and supervisory tasks and only about 19 percent of their time working on technical functions (see Table 3). They spend the remainder of their time primarily conducting administrative and training duties. Representative tasks for this cluster include:

- Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting
- Conduct self-inspections
- Conduct performance feedback worksheets (PFW) evaluation sessions
- Write recommendations for awards and decorations
- Write EPRs
- Determine or establish work priorities
- Develop self-inspection program checklists
- Counsel personnel on personal or military related matters
- Evaluate personnel for compliance with performance standards
- Indorse enlisted performance reports EPRs

Superintendent job members are the most experienced personnel in the career field, as they average almost 18 years TAFMS and predominantly hold 7- and 9- skill level positions (see Table 4). Most of them are assigned to either AFMC or ACC.

Task module analyses show they spend almost 61 percent of their time performing the 76 tasks that comprise the Organizational/Supervisory Duties task module. Representative task modules for this cluster include:

SUPERINTENDENT IJ	
Number of members	12
Percent of total sample	3%
Average number of tasks performed	67
Average time in present job	2.2 yrs
Average time in career field	13 yrs
Average TAFMS	17.9 yrs
Predominant DAFSC	4M071/4M091
Predominant paygrades	E-7
Predominant MAJCOM	AFMC/AETC

TM	Module title	No. of Tsk	Percent Time Spent		Average Percent Members Performing
			(Sum)	(Cumulative)	
0014	Managerial Duties	6	5.7	5.7	53
0006	Organizational/Supervisory Duties	76	60.9	66.6	50
0023	Hypobaric Chamber Crew Duties	15	7.3	73.8	38
0020	Aerospace Physiology Classroom Instruction	14	4.7	78.6	24
0007	Administrative Duties	8	2.0	80.5	18

### Comparison to Previous Study

The AFSC 4M0X1 career ladder structure has changed very little since the previous study (see Table 5). The primary difference is the jobs are identified more specifically in the current study. The Aerospace Physiology Technician job cluster personnel, identified in the current study, perform the same functions as the Aerospace Physiology Training Personnel identified in the previous study. The Entry-Level Physiology Technician IJ was not identified in the previous study as these personnel were grouped with their more experienced counterparts. The Hyperbaric Chamber Equipment Maintenance and Training IJ personnel were not identified in the previous study. These incumbents are more experienced and perform many supervisory functions and hence were likely grouped with the Supervisors and Administrators in the last survey. Finally, the Centrifuge personnel were not identified in the current study. This function still exists in the career field; however, respondents performing these duties were accomplishing different tasks and hence did not represent a cohesive job group.

TABLE 5

## SPECIALTY JOB COMPARISONS BETWEEN CURRENT AND 1988 SURVEYS

<u>CURRENT SURVEY (N=359)</u>	<u>PERCENT OF SAMPLE</u>	<u>1988 (AFSC 911X0) SURVEY (N=397)</u>	<u>PERCENT OF SAMPLE</u>
ENTRY LEVEL AEROSPACE PHYSIOLOGY TECHNICIAN INDEPENDENT JOB	6	NOT IDENTIFIED	-
AEROSPACE PHYSIOLOGY TECHNICIAN JOB CLUSTER	68	AEROSPACE PHYSIOLOGY TRAINING PERSONNEL	61
HYPERBARIC CHAMBER EQUIP MAINTENANCE INDEPENDENT JOB	2	NOT IDENTIFIED	-
HYPERBARIC CHAMBER INDEPENDENT JOB	2	HYPERBARIC CHAMBER PERSONNEL	3
RESEARCH CHAMBER INDEPENDENT JOB	2	RESEARCH CHAMBER PERSONNEL	2
PRESSURES SUIT INDEPENDENT JOB	9	PRESSURE SUIT PERSONNEL	14
TRAINING INDEPENDENT JOB	2	NOT IDENTIFIED	-
SUPERINTENDENT INDEPENDENT JOB	3	SUPERVISORS AND ADMINISTRATORS	13
NOT IDENTIFIED	-	CENTRIFUGE PERSONNEL	2

\*Indicates no match in report

## ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with analysis of the career ladder structure, is an important part of each occupational survey. DAFSC analysis examines differences in tasks performed between skill-level members. This information may then be used to evaluate how well career ladder documents, such as AFMAN 36-2108 *Specialty Descriptions*, reflect what career ladder personnel are doing in the field.

The distribution of AFSC 4M0X1 skill-level groups across career ladder jobs is displayed in Table 6. Notice that far more 3-skill level personnel grouped within the Entry Level Aerospace Physiology Technician IJ than any other DAFSC group, and as members progress to 7- and 9- skill level positions, they tend to hold supervisory jobs such as NCOIC Operations. Table 7 offers another perspective by displaying relative percent time spent on each duty across skill-level groups. Once again, typical career ladder progression is evident as members spend increasingly more duty time performing supervisory functions as they progress in skill-level.

### Skill-Level Descriptions

DAFSC 4M031. The 77 3-skill level personnel, representing 21 percent of the survey sample, perform an average of only 49 tasks, the fewest of any DAFSC group, and primarily perform the Entry-Level Aerospace Physiology Technician and Hypobaric Chamber Equipment Maintenance jobs (see Table 6). They spend 42 percent of their time operating and maintaining hypobaric chambers and conducting aerospace physiology instruction (see Table 7). Additionally, more 3-skill level personnel perform pressure suit activities than members of any other skill-level group. Table 8, which shows the tasks they perform, demonstrates the basic technical nature of their work.

DAFSC 4M051. The 180 5-skill level personnel, representing 50 percent of the survey sample, perform an average of 75 tasks. They perform work primarily in the Aerospace Physiology Technician job cluster and more perform the Parasail/Ejection Seat Instructor job than any other DAFSC group members (see Table 6). Table 7 shows they spend their time performing tasks in support of a variety of technical functions that most often involve operating and maintaining hypobaric chambers and conducting aerospace physiology instruction. Table 9 shows that, like their junior counterparts, they perform primarily technical tasks. The factor distinguishing them from 3-skill level members is they perform some basic supervisory and training functions (see Table 10).

DAFSC 4M071. The 87 7-skill level personnel, representing 24 percent of the survey sample, perform an average of 109 tasks, more tasks than other skill-level groups, because they are first-line supervisors. Table 6 shows they perform the NCOIC Operations and Maintenance jobs which require both supervisory and technical functions. Table 7 further emphasizes the dual nature of their work as they spend 36 percent of their time performing tasks in duty areas A-C which are supervisory in nature. Additionally, Table 11 shows tasks they most often perform are a mixture of supervisory and technical tasks. They distinguish themselves from their junior

counterparts as more perform supervisory duties such as writing enlisted performance reports (EPRs) and conducting performance feedback worksheet (PFW) evaluation sessions (see Table 12).

TABLE 6  
DISTRIBUTION OF SKILL-LEVEL MEMBERS  
ACROSS CAREER LADDER JOBS

<u>JOB</u>	DAFSC 4M031 (N=77)	DAFSC 4M051 (N=180)	DAFSC 4M071 (N=87)	DAFSC 4M091 (N=15)
ENTRY-LEVEL AEROSPACE PHYSIOLOGY TECHNICIAN INDEPENDENT JOB	23	2	0	0
<b>AEROSPACE PHYSIOLOGY TECHNICIAN JOB CLUSTER</b>	47	72	78	67
HYPOBARIC CHAMBER EQUIPMENT MAINTENANCE JOB	21	16	1	0
HYPOBARIC CHAMBER INSTRUCTOR JOB	10	9	3	7
PARASAIL/EJECTION SEAT INSTRUCTOR JOB	8	24	13	0
NCOIC OPERATIONS JOB	0	7	38	60
NCOIC MAINTENANCE JOB	5	16	22	0
HYPERBARIC CHAMBER EQUIPMENT MAINTENANCE INDEPENDENT JOB	0	2	3	0
HYPERBARIC CHAMBER INDEPENDENT JOB	0	4	2	0
RESEARCH CHAMBER INDEPENDENT JOB	1	1	2	0
PRESSURE SUIT INDEPENDENT JOB	14	10	0	0
TRAINING INDEPENDENT JOB	1	2	1	0
SUPERINTENDENT INDEPENDENT JOB	0	1	7	27
NOT GROUPED	14	6	7	6

DAFSC 4M091. The 15 9-skill level personnel, representing only 4 percent of the survey sample, perform an average of 100 tasks. These experienced personnel perform work in NCOIC Operations and Superintendent jobs (see Table 6). They spend almost all their time performing supervisory and administrative tasks, although they still perform some technical duties (see Table 7). Table 13 lists tasks representative of 9- skill level members' work, while Table 14 shows the tasks which best differentiate them from their junior counterparts. It is apparent that 9- skill level members are primarily pure supervisors who do not perform technical and training functions.

### Summary

Three-skill level and 5-skill level airmen perform many tasks in common, and both groups spend the majority of their relative job time on technical functions. Five- skill level personnel perform basic training tasks, but neither group performs many supervisory duties. Seven-skill level personnel are first-line supervisors that perform many technical as well as supervisory functions. At the 9- skill level, members perform some technical functions but concentrate primarily on supervisory and managerial duties.

### **ANALYSIS OF AFMAN 36-2108 *SPECIALTY DESCRIPTIONS***

Survey data were compared to AFMAN 36-2108 *Specialty Descriptions* for AFSC 4M0X1 Aerospace Physiology Journeymen, Craftsmen, and Superintendents, dated 31 October 1993. The descriptions for the 5-, 7-, and 9- skill level members were accurate, depicting technical aspects of the job, as well as the increase in supervisory responsibilities previously described in the DAFSC analysis. The descriptions also capture the primary responsibilities of job members identified in the job structure analysis.

TABLE 7

TIME SPENT ON DUTIES BY MEMBERS OF SKILL-LEVEL GROUPS  
(RELATIVE PERCENT OF JOB TIME)

JOB	DAFSC 4M031 (N=77)	DAFSC 4M051 (N=180)	DAFSC 4M071 (N=87)	DAFSC 4M091 (N=15)
A ORGANIZING AND PLANNING	4	7	16	24
B DIRECTING AND CONTROLLING	*	4	9	15
C INSPECTING AND EVALUATING	*	3	11	22
D TRAINING	9	10	13	13
E PERFORMING ADMINISTRATIVE FUNCTIONS	9	12	10	6
F CONDUCTING AEROSPACE PHYSIOLOGY INSTRUCTION	13	17	14	6
G OPERATING OR MAINTAINING HYPOBARIC CHAMBERS	29	17	10	8
H PERFORMING HAAMS ACTIVITIES	*	1	2	2
I OPERATING OR MAINTAINING HYPERBARIC CHAMBERS	6	6	5	2
J PERFORMING ACTIVITIES ON LIFE SUPPORT EQUIPMENT	11	8	5	1
K PERFORMING PRESSURE SUIT ACTIVITIES	10	7	*	1
L OPERATING AND MAINTAINING AIRCRAFT EMERGENCY ESCAPE AND SPECIAL PHYSIOLOGICAL TRAINERS	6	5	3	*
M PERFORMING PHYSIOLOGY RESEARCH ACTIVITIES	2	3	2	*

\* Denotes less than 1 percent

NOTE: Columns may not add up to 100 percent due to rounding

TABLE 8

## REPRESENTATIVE TASKS PERFORMED BY DAFSC 4M031 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=77)
G 228 Serve as recorder during hypobaric chamber flights, other than research flights	94
G 225 Serve as inside observer during hypobaric chamber flights, other than research flights	90
G 227 Serve as lock operator during hypobaric chamber flights, other than research flights	90
G 224 Serve as crew chief during hypobaric chamber flights, other than research flights	88
G 223 Serve as chamber operator during hypobaric chamber flights, other than research flights	87
G 232 Treat chamber reactors for hypoxia	83
G 231 Treat chamber reactors for hyperventilation	79
G 230 Treat chamber reactors for claustrophobia or apprehension	73
G 208 Connect or disconnect high-pressure oxygen cylinders	70
J 273 Fit chamber students with flight helmets	66
J 272 Fit chamber students or patients with oxygen hoods or masks	64
F 178 Brief rapid decompression during chamber flights	62
D 92 Clean aerospace physiology equipment, training aids, and devices	58
J 269 Clean flight helmets of chamber students	56
G 229 Store high-pressure oxygen cylinders	51
J 277 Recharge chamber portable oxygen assemblies	48
J 276 Purge chamber portable oxygen assemblies	47
J 281 Store oxygen equipment	47
G 233 Treat chamber reactors for mechanical effects of pressure changes such as decompression sickness	47
G 214 Perform oxygen flow checks of narrow panel pressure-demand oxygen regulators	45



TABLE 9

## REPRESENTATIVE TASKS PERFORMED BY DAFSC 4M051 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=180)
G 225 Serve as inside observer during hypobaric chamber flights, other than research flights	82
G 227 Serve as lock operator during hypobaric chamber flights, other than research flights	81
G 223 Serve as chamber operator during hypobaric chamber flights, other than research flights	80
G 232 Treat chamber reactors for hypoxia	80
G 224 Serve as crew chief during hypobaric chamber flights, other than research flights	79
G 228 Serve as recorder during hypobaric chamber flights, other than research flights	79
G 231 Treat chamber reactors for hyperventilation	77
F 178 Brief rapid decompression during chamber flights	74
G 230 Treat chamber reactors for claustrophobia or apprehension	73
J 272 Fit chamber students or patients with oxygen hoods or masks	71
G 208 Connect or disconnect high-pressure oxygen cylinders	71
J 273 Fit chamber students with flight helmets	67
E 131 Conduct tours of aerospace physiology facilities	67
D 92 Clean aerospace physiology equipment, training aids, and devices	66
F 180 Brief use of emergency and portable oxygen systems during hypobaric chamber flights	66
G 233 Treat chamber reactors for mechanical effects of pressure change, such as decompression sickness	64
F 173 Brief chamber flight preflight or postflight procedures	63
F 176 Brief hypobaric chamber flight preflight oxygen equipment inspection procedures	62
A 17 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	61
G 226 Serve as lecturer observer during hypobaric chamber flights, other than research flights	60

TABLE 10

TASKS WHICH BEST DIFFERENTIATE BETWEEN  
DAFSC 4M031 AND DAFSC 4M051 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 4M031 (N=77)	DAFSC 4M051 (N=180)	DIFFERENCE
D 111 Conduct OJT	2	23	-21
F 171 Create aircraft or support equipment maintenance discrepancies in CAMS	14	35	-21
B 69 Supervise Aircraft Armament Systems Specialists (AFSC 2W151)	0	21	-21
D 116 Demonstrate how to locate technical information	3	22	-19
A 14 Determine work priorities	1	20	
B 72 Supervise Apprentice Aircraft Armament Systems Specialists (AFSC 2W131)	0	19	
C 81 Evaluate individuals for compliance with performance standards	0	18	-18
B 37 Counsel personnel on personal or military-related matters	0	17	-17
C 103 Prepare EPRs	0	17	-17
D 115 Counsel trainees on training progress	0	17	-17
G 197 Locate part numbers from illustrated parts breakdowns	31	47	-16

TABLE 11

## REPRESENTATIVE TASKS PERFORMED BY DAFSC 4M071 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=87)
A 17 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	90
A 5 Determine or establish work priorities	87
C 84 Write EPRs	82
C 58 Conduct performance feedback worksheet (PFW) evaluation sessions	82
G 232 Treat chamber reactors for hypoxia	82
G 233 Treat chamber reactors for mechanical effects of pressure change, such as decompression sickness	82
G 231 Treat chamber reactors for hyperventilation	82
G 230 Treat chamber reactors for claustrophobia or apprehension	82
A 10 Develop work procedures	80
G 225 Serve as inside observer during hypobaric chamber flights, other than research flights	79
F 178 Brief rapid decompression during chamber flights	79
A 22 Plan or schedule work assignments or priorities	78
A 13 Establish performance standards for subordinates	78
F 173 Brief chamber flight preflight or postflight procedures	77
B 36 Counsel personnel on personal or military related problems	
G 227 Serve as lock operator during hypobaric chamber flights, other than research flights	77
A 12 Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOPs)	76
F 180 Brief use of emergency and portable oxygen systems during hypobaric chamber flights	76
C 85 Write recommendations for awards and decorations	75
G 223 Serve as chamber operator during hypobaric chamber flights, other than research flights	75

TABLE 12

TASKS WHICH BEST DIFFERENTIATE BETWEEN  
DAFSC 4M051 AND DAFSC 4M071 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

<u>TASKS</u>	DAFSC 4M051 (N=180)	DAFSC 4M071 (N=87)	<u>DIFFERENCE</u>
C 58 Conduct performance feedback worksheet (PFW)	21	82	-61
C 85 evaluation sessions	15	75	-60
C 84 Write recommendations for awards and decorations	24	82	-58
A 5 Write EPRs	33	87	-54
A 13 Determine or establish work priorities	28	78	-50
A 22 Establish performance standards for subordinates	28	78	-50
C 59 Plan or schedule work assignments or priorities	23	73	-50
A 10 Conduct self inspections	31	80	-49
C 74 Develop work procedures	12	61	-49
Evaluate personnel for promotion, demotion, reclassification, or special awards			
C 81 Inspect personnel for compliance with military standards	16	65	-49
B 36 Counsel personnel on personal or military-related problems	29	77	-48

TABLE 13

## REPRESENTATIVE TASKS PERFORMED BY DAFSC 4M091 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=15)
A 17 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	100
B 36 Counsel personnel on personal or military related problems	100
A 13 Write EPRs	100
A 1 Assign personnel to duty positions	100
A 3 Determine or establish logistics requirements, such as personnel, equipment, space, tools, or supplies	100
C 84 Write EPRs	93
C 80 Indorse enlisted performance reports (EPRs)	93
A 5 Determine or establish work priorities	93
C 74 Evaluate personnel for promotion, demotion, or classification	93
A 12 Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOPs)	93
C 73 Evaluate personnel for compliance with performance standards	93
C 58 Conduct performance feedback worksheet (PFW) evaluation sessions	93
A 24 Plan self-inspection programs	93
C 59 Conduct self-inspections	93
C 85 Write recommendations for awards and decorations	87
A 10 Develop work procedures	87
A 9 Develop self-inspection programs	87
B 42 Implement self-inspection programs	87
C 76 Evaluate safety or security programs	87
A 7 Develop inputs to mobility, contingency, disaster preparedness, unit emergency, or alert plans	87

TABLE 14

TASKS WHICH BEST DIFFERENTIATE BETWEEN  
DAFSC 4M071 AND DAFSC 4M091 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

<u>TASKS</u>	DAFSC 4M071 (N=87)	DAFSC 4M091 (N=15)	<u>DIFFERENCE</u>
F 195 Conduct classroom instruction concerning use of continuous-flow passenger oxygen systems	55	7	48
F 194 Conduct classroom instruction concerning types of oxygen storage systems	59	13	46
F 196 Conduct classroom instruction concerning use of oxygen masks	57	13	44
F 190 Conduct classroom instruction concerning parachuting principles and procedures	44	0	44
F 185 Conduct classroom instruction concerning aircraft pressurization principles and problems	49	7	42
F 180 Brief use of emergency and portable oxygen systems during hypobaric chamber flights	76	34	42
F 177 Brief-in-flight egress procedures	41	0	41
C 80 Indorse enlisted performance reports (EPRs)	31	93	-62
B 47 Initiate requests for personnel replacements	21	80	-59
C 68 Evaluate layouts of facilities	25	80	-55
A 20 Plan layouts of facilities	29	80	-51
A 7 Develop inputs to mobility, contingency, disaster preparedness, unit emergency, or alert plans	36	87	-51
C 76 Evaluate safety or security programs	36	87	-51
A 24 Plan self-inspection programs	46	93	-47
B 51 Supervise Aerospace Physiology Craftsmen (AFSC 4M071)	36	80	-44
C 63 Evaluate budget requirements	37	80	-43

## TRAINING ANALYSIS

Occupational surveys provide information which can be used to assist in the development of training programs relevant to needs of personnel in their first enlistment. Factors used to evaluate entry-level AFSC 4M0X1 training include duties performed by members across career ladder jobs, percentages of members performing specific tasks, ratings of how much training emphasis (TE) tasks should receive in formal training, and relative task difficulty (TD) ratings.

### First-Enlistment Personnel

In this study there are 132 members in their first enlistment (1-48 months' TAFMS), representing 37 percent of the survey sample. These personnel work primarily in Aerospace Physiology Technician cluster jobs (see Figure 2). They spend much of their time operating and maintaining hypobaric chambers and conducting aerospace physiology instruction (see Table 15). Some members perform pressure suit support functions, but very few members with this level of experience work with hyperbaric chambers. Notice, in Table 16, that first-enlistment personnel perform basic hypobaric chamber flight tasks, such as serving as flight crewmembers and fitting students for chamber flights. At this level, members perform some administrative functions but very few training functions and virtually no supervisory duties.

Table 17 presents a short list of equipment items used by more than 20 percent of first-enlistment AFSC 4M0X1 personnel. Members use vacuum pumps, compressors, and audiovisual equipment on their jobs.

### AFSC 4M0X1 FIRST-ENLISTMENT PERSONNEL CAREER LADDER JOBS

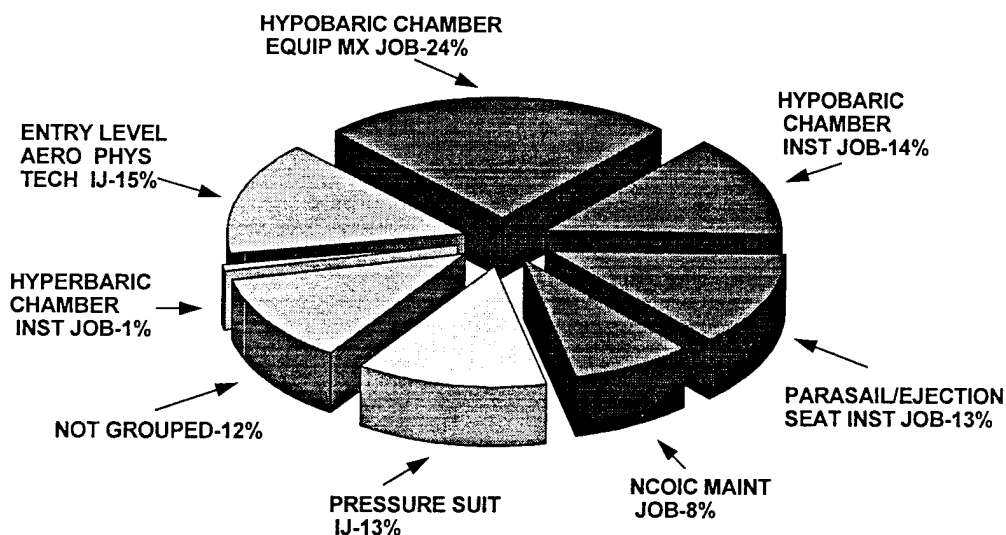


FIGURE 2

TABLE 15

RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES BY  
FIRST-ENLISTMENT AFSC 4M0X1 PERSONNEL

<u>DUTY AREA</u>	<u>PERCENT TIME SPENT</u>
A ORGANIZING AND PLANNING	4
B DIRECTING AND CONTROLLING	1
C INSPECTING AND EVALUATING	1
D TRAINING	9
E PERFORMING ADMINISTRATIVE FUNCTIONS	10
F CONDUCTING AEROSPACE PHYSIOLOGY INSTRUCTION	16
G OPERATING OR MAINTAINING HYPOBARIC CHAMBERS	25
H PERFORMING HAAMS ACTIVITIES	*
I OPERATING OR MAINTAINING HYPERBARIC CHAMBERS	6
J PERFORMING ACTIVITIES ON LIFE SUPPORT EQUIPMENT	10
K PERFORMING PRESSURE SUIT ACTIVITIES	9
L OPERATING AND MAINTAINING AIRCRAFT EMERGENCY ESCAPE AND SPECIAL PHYSIOLOGICAL TRAINERS	6
M PERFORMING PHYSIOLOGY RESEARCH ACTIVITIES	3

\* Denotes less than 1 percent



TABLE 16

REPRESENTATIVE TASKS PERFORMED BY  
FIRST-ENLISTMENT AFSC 4M0X1 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=132)
G 228    Serve as recorder during hypobaric chamber flights, other than research flights	93
G 227    Serve as lock operator during hypobaric chamber flights, other than research flights	89
G 224    Serve as crew chief during hypobaric chamber flights, other than research flights	89
G 225    Serve as inside observer during hypobaric chamber flights, other than research flights	88
G 223    Serve as chamber operator during hypobaric chamber flights, other than research flights	88
G 232    Treat chamber reactors for hypoxia	85
G 231    Treat chamber reactors for hyperventilation	80
G 230    Treat chamber reactors for claustrophobia or apprehension	75
J 273    Fit chamber students with flight helmets	70
J 272    Fit chamber students or patients with oxygen hoods or masks	69
F 178    Brief rapid decompression during chamber flights	69
D 92    Clean aerospace physiology equipment, training aids, and devices	68
G 208    Connect or disconnect high-pressure oxygen cylinders	68
J 269    Clean flight helmets or chamber students	61
G 229    Store high-pressure oxygen cylinders	53
G 233    Treat chamber reactors for mechanical effects of pressure change, such as decompression sickness	52
J 277    Recharge chamber portable oxygen assemblies	52
E 131    Conduct tours of aerospace physiology facilities	51
F 207    Instruct treatment procedures for hypoxia	50
F 180    Brief use of emergency and portable oxygen systems during hypobaric chamber flights	49

TABLE 17

EQUIPMENT ITEMS USED BY MORE THAN 20 PERCENT OF FIRST-  
ENLISTMENT AFSC 4M0X1 PERSONNEL

<u>EQUIPMENT</u>	<u>1ST ENL</u> <u>(N=132)</u>
VACUUM PUMP	74
COMPRESSOR	59
AUDIOVISUAL EQUIPMENT	58
WORD PROCESSING EQUIPMENT	52
CLASSROOM MOCKUP	46
STANDARD SCALE (12 TO 20 POUND PULL)	30
OXYGEN REGULATOR TEST EQUIPMENT	28

### Training Emphasis (TE) and Task Difficulty (TD) Data

TE and TD data are secondary task factors that can help training development personnel decide which tasks to emphasize for entry-level training. These ratings, based on the judgments of senior career ladder NCOs at operational units, provide a rank-ordering of those tasks considered important for airmen with 1-48 months TAFMS, members to learn (TE), and a measure of the relative difficulty of those tasks (TD). When combined with data on percentages of entry-level personnel performing tasks, comparisons can be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors (TE and TD), accompanied by moderate to high percentages performing, may be more appropriately planned for OJT programs. Low task factor ratings may highlight tasks best omitted from training for new personnel. These decisions must be weighed against percentages of personnel performing tasks, command concerns, and criticality of tasks.

To assist training development personnel, AFOMS developed a computer program that uses these task factors and percentages of 1-48 months TAFMS personnel performing tasks to produce Automated Training Indicators (ATI). ATI correspond to training decisions listed and defined in the Training Decision Logic Table found in Attachment 1, AETCR 52-22. ATI allow training developers to quickly focus attention on those tasks which are most likely to qualify for resident course consideration.

Tasks having the highest TE ratings for AFSC 4M0X1 personnel with 1-48 months TAFMS are listed in Table 18. Included for each task are percentages of 1-24 months TAFMS personnel performing the task (1st Job), percentages of 1-48 months TAFMS personnel performing the task (1st ENL), and TD ratings. As illustrated in the table, tasks with the highest TE ratings deal with hypobaric chamber flight crew duties most often performed by members in core jobs of the career field. Other tasks with high TE involve briefing subjects and providing classroom instruction.

Table 19 lists tasks having the highest TD ratings. The percentages of 1-24 months TAFMS, 1-48 months TAFMS, 5- skill level, 7- skill level personnel performing, and TE ratings are also included for each task. Many tasks with high TD deal with developing major programs such as training programs and associated materials. The majority of technical functions considered to be extremely difficult relate to pressure suit activities, such as isolating pressure suit oxygen regulator malfunctions and performing overhaul inspections of pressure suit controllers. Generally, there is a negative correlation between the TD and TE ratings of tasks shown; however, several tasks dealing with conducting classroom instruction on oxygen equipment have both high TE and TD ratings.

Various lists of tasks, accompanied by TE and TD ratings, are contained in the **TRAINING EXTRACT** package and should be reviewed in detail by technical school personnel. For a more detailed explanation of TE and TD ratings, see Task Factor Administration in the **SURVEY METHODOLOGY** section of this report.

TABLE 18

## TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS	TNG EMP	PERCENT MEMBERS PERFORMING	TSK DIFF
G 225	8.16	89	4.80
G 232	8.08	77	4.73
G 224	7.98	87	4.75
G 223	7.92	89	4.18
G 228	7.92	93	3.94
G 231	7.90	72	4.63
G 227	7.88	85	4.04
G 233	7.59	39	5.67
G 230	7.47	67	4.99
F 180	7.39	31	4.63
G 208	7.35	64	3.34
J 268	7.31	39	4.94
G 210	7.27	46	4.10
F 196	7.27	31	4.3
F 197	7.25	28	5.25
F 178	7.25	54	4.47
F 194	7.22	30	5.39
F 176	7.16	28	4.31

TE MEAN = 2.77; S.D. = 2.02 (HIGH = 4.79)

TD MEAN = 5.00; S.D. = 1.00

TABLE 19

## TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS	TSK DIFF	1ST JOB	PERCENT MEMBERS PERFORMING			TNG EMP
			ENL	4M051	4M071	
D 105	7.78	0	0	1	1	.00
D 107	7.39	0	0	4	10	.12
K 296	7.30	5	5	7	1	1.92
A 11	7.17	2	5	10	38	.51
K 305	7.16	8	5	4	1	1.86
K 295	7.12	5	5	7	1	1.92
D 109	7.08	2	2	3	7	.10
K 331	7.02	2	4	4	1	1.24
K 306	7.01	3	2	4	2	1.86
K 303	6.99	15	11	10	2	1.92
C 85	6.93	0	0	15	75	.94
E 158	6.87	2	1	0	3	.61
C 84	6.82	0	0	24	82	1.20
K 293	6.79	8	7	9	2	1.90
C 63	6.77	0	2	8	37	.63
K 285	6.76	15	8	7	1	1.75
D 124	6.63	2	1	2	15	.14
M 372	6.60	2	1	2	2	.98
M 394	6.60	2	1	1	0	1.35
C 61	6.60	0	2	2	1	.08

TD MEAN = 5.00; S.D. = 1.00

TE MEAN = 2.77; S.D. = 2.02 (HIGH = 4.79)

### Specialty Training Standard (STS) Analysis

A comprehensive review of the AFSC 4M0X1 draft STS, implemented October 1994, was made by comparing survey data to STS elements. To assist specifically in the examination of the STS, technical school personnel from the USAF School of Aerospace Medicine, located at Brooks AFB, matched JI tasks to appropriate sections and subsections of the STS. A complete listing, displaying percent members performing tasks, TE and TD ratings for each task, along with STS matching, has been forwarded to the technical school for use in further review of training documents. STS elements with performance objectives were reviewed in terms of TE, TD, and percent members performing information, using the guidance provided in AFI 36-2623 and AETCR 52-22. Typically, tasks performed by 20 percent or more personnel in appropriate experience or skill-level groups, such as first-enlistment (1-48 months TAFMS), and 5- and 7-skill level groups, should be considered for inclusion in the STS. Likewise, tasks with less than 20 percent performing in all of these groups should be considered for deletion from the STS.

Review of the draft STS showed numerous items were unsupported by survey data. A sampling of unsupported items, along with accompanying job inventory tasks and survey data, is listed in Table 20. STS items dealing with inspecting spatial disorientation and ejection seat trainers and maintaining full pressure suits and associated equipment were widely unsupported. The lack of STS support is due to the diverse nature of the career field. Personnel working in the pressure suit technician job, for example, may perform duties distinctly different from members performing more conventional hypobaric chamber crew positions. For this reason, most of the pressure suit training is administered at Beale AFB. Training personnel and SMEs should review unsupported STS items listed in Table 20, as well as accompanying training documents, to determine if inclusion in future revisions is warranted.

Tasks not matched to any element of the STS are listed at the end of the computer listing located in associated training documents. These were reviewed to determine if any tasks concentrate around particular functions or jobs. Many of the unreferenced tasks are managerial or supervisory in nature and not normally matched to an STS. A sample of technical tasks, performed by 20 percent or more criterion group members, not referenced to the STS, is listed in Table 21. Training personnel should review these and other unreferenced tasks to determine if STS inclusion is necessary.

### Plan of Instruction (POI) Analysis

Technical school SMEs matched JI tasks to POI 3ABY4M031-001, dated 15 October 1990, training objectives. Objectives were evaluated in a method similar to the STS analysis, as percent members performing data for first-job (1-24 months TAFMS) and first-enlistment (1-48 months TAFMS) personnel, TE, and TD ratings were examined.

TABLE 20

## EXAMPLES OF STS ITEMS NOT SUPPORTED BY SURVEY DATA

STS ITEMS/TASKS	PERCENT MEMBERS PERFORMING					TSK DIFF
	TNG EMP	1ST JOB	ENL	4M051	4M071	
7b(1). Vertigon inspections - Perform daily						
L 347	4.14	8	13	12	15	3.84
7d(1). Night vision trainer inspections - Perform daily						
L 344	4.71	8	14	16	15	3.64
12I(4). Custom oxygen masks - Construct mask molds from face casts						
J 270	3.25	5	6	8	5	5.96
14c(1). MH-15 Ejection Seat - Perform daily inspections						
L 343	4.14	3	8	9	3	4.36

TD MEAN = 5.00; S.D. = 1.00

TE MEAN = 2.77; S.D. = 2.02 (HIGH = 4.79)

TABLE 20 (CONTINUED)

## EXAMPLES OF STS ITEMS NOT SUPPORTED BY SURVEY DATA

STS ITEMS/TASKS	PERCENT MEMBERS PERFORMING						TSK DIFF
	TNG	1ST	ENL	4M051	4M071		
	EMP	JOB					
-----							
16a(4)(C).	Full pressure suits - Overhaul						
-----							
K 303	1.92	15	11	10	2	6.99	
-----							
16a(7).	Size, fit and adjust full pressure suits						
-----							
K 329	2.37 2.33	8	8	7	0	6.33	
K 283		11	8	7	2	6.13	
-----							
16e(5)(a).	Low flight regulators - Perform periodic inspections						
-----							
K 308	2.06	10	6	3	0	5.54	
-----							
16e(5)(b).	Low flight regulators - Overhaul/troubleshoot/repair						
-----							
K 304	1.86	5	3	2	0	6.14	

TD MEAN = 5.00; S.D. = 1.00

TE MEAN = 2.77; S.D. = 2.02 (HIGH = 4.79)



TABLE 20 (CONTINUED)

## EXAMPLES OF STS ITEMS NOT SUPPORTED BY SURVEY DATA

STS ITEMS/TASKS	PERCENT MEMBERS PERFORMING						TSK DIFF
	TNG	1ST					
	EMP	JOB	ENL	4M051	4M071		
16g(3)(b). LOX procedures - Fill hand-held ventilator							
K 289	2.27	16	12	11	2	5.10	
20a. Hyperbaric maintenance - Perform daily, periodic and special inspections and maintenance on hyperbaric chamber systems and ancillary equipment							
I 249	4.35	10	13	18	15	4.22	
I 255	3.53	2	5	8	9	5.59	
20c. Hyperbaric maintenance - Perform basic troubleshooting procedures on hyperbaric chamber systems							
I 251	4.14	7	10	13	9	4.78	
25c(3). Parasail operations - Perform tow driver duties							
L 368	2.86	0	2	9	13	5.80	

TD MEAN = 5.00; S.D. = 1.00

TE MEAN = 2.77; S.D. = 2.02 (HIGH = 4.79)

TABLE 21

TECHNICAL TASKS PERFORMED BY 20 PERCENT OR MORE  
CRITERION GROUP PERSONNEL AND NOT REFERENCED TO THE STS

<u>TASKS</u>	<u>TNG</u> <u>EMP</u>	<u>1ST</u> <u>JOB</u>	<u>PERCENT MEMBERS</u> <u>PERFORMING</u>			<u>TSK</u> <u>DIFF</u>
			<u>1ST</u> <u>ENL</u>	<u>4M051</u>	<u>4M071</u>	
G 229 Store high-pressure oxygen cylinders	6.94	56	53	58	52	2.82
F 189 Conduct classroom instruction concerning night vision principles and problems	6.35	11	27	44	44	4.98
D 92 Clean aerospace physiology equipment, training aids, and devices	5.82	57	68	66	51	2.63
E 151 Maintain precision measurement equipment (PME) calibration schedules	4.71	11	11	16	20	3.61
E 165 Solder wiring	4.65	8	15	21	22	4.05
E 166 Store equipment, tools, or supplies	4.45	23	27	39	38	2.53
G 209 Escort students to flight surgeon's office following adverse chamber reactions	4.18	21	30	37	39	2.15
D 97 Construct or develop training materials, aids, or devices	4.06	7	19	31	45	5.47
E 143 Issue or log turn-ins of equipment, tools, or supplies	3.75	7	10	18	24	3.48
E 163 Review student critiques	3.67	26	36	48	62	2.81
E 171 Write minutes of meetings, briefings, or conferences	2.94	18	20	25	34	3.98

TD MEAN = 5.00; S.D. = 1.00

TE MEAN = 2.77; S.D. = 2.02 (HIGH = 4.79)

POI blocks, units of instruction, and criterion objectives were compared against guidance provided by AETCR 52-22 (30 percent or more criterion first-enlistment group performing trained tasks). In accordance with this guidance, tasks trained in the course not meeting these criteria should be considered for elimination from formal course training if not justified on some other acceptable basis.

POI analysis reveals fewer unsupported objectives than exhibited in the STS analysis. A sample of unsupported objectives is listed in Table 22. Four of these unsupported objectives deal with emergency egress principles, while the remaining objectives deal with the principles of aircraft pressurization and pressure suit utilization.

Many technical tasks, performed by over 30 percent of first-enlistment personnel, were not matched to the POI. Examples of these tasks with survey data are listed in Table 23. The majority of these tasks involve conducting aerospace physiology instruction and operating hyperbaric chambers. Training personnel and SMEs should review these and other unreferenced tasks to determine if these areas should be incorporated into the formal course.

### **JOB SATISFACTION ANALYSIS**

An examination of job satisfaction indicators can be very useful for career ladder managers as they attempt to determine possible factors affecting job performance of career ladder airmen. Job satisfaction data can be expanded to provide indications of general attitudes within specific DAFSC groups.

With this in mind, job satisfaction responses for AFSC 4M0X1 personnel were analyzed and provide the following comparisons: (1) among TAFMS groups of the AFSC 4M0X1 career ladder and a comparative sample of medical personnel surveyed in 1993 and (2) between current and previous AFSC 4M0X1 respondents.

Table 24 shows the comparison of TAFMS group data of AFSC 4M0X1 respondents to a comparative sample of other medical career ladders surveyed the previous year. These data provide a relative measure of how AFSC 4M0X1 personnel job satisfaction responses compare with similar Air Force specialties. Generally, Aerospace Physiology personnel are slightly more satisfied with their jobs than members of a comparative sample. The 49-96 months TAFMS Aerospace Physiology respondents feel their training is not utilized as well, but are much more likely to reenlist than their counterparts. The members of both 1-48 months TAFMS groups are less likely to reenlist than members of any other TAFMS group. Overall, members of both the current and comparative samples seem to be relatively satisfied with their jobs.

An indication of changes in job satisfaction perceptions within the career ladder over time is provided in Table 25 which compares TAFMS group data for current survey respondents to

TABLE 22

EXAMPLES OF POI ITEMS NOT SUPPORTED BY SURVEY DATA

<u>POI OBJECTIVES/TASK</u>		<u>TNG EMP</u>	<u>1ST JOB</u>	<u>PERCENT MEMBERS PERFORMING</u>	<u>1ST ENL</u>	<u>TSK DIFF</u>
<u>XI 1a. Identify the principles of aircraft emergency escape systems.</u>						
F 188	Conduct classroom instruction concerning in-flight egress escape procedures	5.82	3	16		5.45
F 177	Brief in-flight egress procedures	5.41	15	28		5.15
<u>XI 2a. Identify the proper ejection sequence produced IAW the MH-15 trainer checklist</u>						
F 179	Brief use of ejection seat trainers	4.90	15	17		4.75
L 338	Operate live-fire ejection seat trainers	4.35	10	16		5.35
<u>XI 4a. Identify the factors that determine aircraft crash survivability</u>						
F 186	Conduct classroom instruction concerning crash survival	5.59	3	17		5.47

TD MEAN = 5.00; S.D. = 1.00

TE MEAN = 2.77; S.D. = 2.02 (HIGH = 4.79)

TABLE 22 (CONTINUED)

EXAMPLES OF POI ITEMS NOT SUPPORTED BY SURVEY DATA

<u>POI OBJECTIVES/TASK</u>	<u>PERCENT MEMBERS PERFORMING</u>			
	<u>TNG EMP</u>	<u>1ST JOB</u>	<u>1ST ENL</u>	<u>TSK DIFF</u>
<hr/>				
<b>XI 5a.</b> Perform four parachute landing falls (front, rear, right, and left) from the Swing Landing Trainer with a maximum of three attempts allowed from each direction				
<hr/>				
F 199 Conduct parachute landing fall (PLF) training	4.65	15	25	5.19
L 334 Instruct and evaluate students on PLF platforms	4.18	10	19	4.97
<hr/>				
<b>XII 1a.</b> Identify the principles and physiological effects of aircraft pressurization				
<hr/>				
F 185 Conduct classroom instructions concerning aircraft pressurization principles and problems	6.61	10	23	5.10
<hr/>				
<b>XIII 1a.</b> Identify the evolution, purpose, operating principles and consequences of using pressure suits				
<hr/>				
F 191 Conduct classroom instruction concerning pressure suit principles	3.55	0	1	6.11

TD MEAN = 5.00; S.D. = 1.00

TE MEAN = 2.77; S.D. = 2.02 (HIGH = 4.79)

TABLE 23

EXAMPLES OF TECHNICAL TASKS PERFORMED BY 30 PERCENT OR MORE  
FIRST-ENLISTMENT PERSONNEL AND NOT REFERENCED TO THE POI

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>			
	<u>TNG EMP</u>	<u>1ST JOB</u>	<u>1ST ENL</u>	<u>TSK DIFF</u>
F 180 Brief use of emergency and portable oxygen systems during hypobaric chamber flights	7.39	31	49	4.63
F 178 Brief rapid decompression during chamber flights	7.25	54	69	4.47
F 173 Brief chamber flight preflight or postflight procedures	6.94	31	44	4.79
G 226 Serve as lecturer observer during hypobaric chamber flights, other than research flights	6.75	31	44	5.53
F 182 Brief use of spatial disorientation trainers	6.20	31	45	4.32
D 92 Clean aerospace physiology equipment, training aids, and devices	5.82	57	68	2.63
G 213 Perform oxygen flow checks of A-14 pressure-demand oxygen regulators	5.75	34	33	4.13
I 261 Serve as chamber operator during hyperbaric chamber dives	5.02	34	37	5.11
I 262 Serve as crew chief and lock operator during hyperbaric chamber dives	4.96	33	36	5.22
I 266 Serve as timekeeper during hyperbaric chamber dives	4.92	31	36	5.07
J 268 Assemble life support equipment, such as oxygen masks	4.92	34	37	4.95
I 263 Serve as inside observer during hyperbaric chamber dives	4.82	30	34	5.42

TD MEAN = 5.00; S.D. = 1.00

TE MEAN = 2.77; S.D. = 2.02 (HIGH = 4.79)

that of previous survey respondents. The current AFSC 4M0X1 respondents seem about as satisfied with their jobs as those respondents surveyed in 1988. The current survey 1-48 months TAFMS group members exhibit less interest in their jobs, but feel their training is better utilized. The current 49-96 months TAFMS group members also exhibit less job interest but are equally satisfied with their training utilization. They do, however, feel their talents are utilized more effectively. The current 97+ months TAFMS personnel are much happier with the way their training is utilized and are slightly more likely to reenlist.

Finally, job satisfaction data for identified jobs are provided in Table 26. Generally, job satisfaction data are high for personnel across all identified jobs. Only the Hypobaric Chamber Instructor and Research Chamber job members express a slight disinterest in their jobs. The members of these two jobs, along with the Hyperbaric Chamber job members, are also less satisfied with the way their talents are utilized. The Research Chamber job members, once again, along with the Training personnel, do not feel their training is utilized adequately. Only the Hypobaric Chamber Instructor job members do not gain a great sense of accomplishment from their work. The Hypobaric Equipment Maintenance job, Hypobaric Chamber Instructor job, Hyperbaric Chamber job, and Superintendent job personnel are the survey members least likely to reenlist.

### Summary

Overall, AFSC 4M0X1 members are as satisfied with their jobs as members of a comparative sample of medical career ladder personnel. Furthermore, members of the current sample are as satisfied with their jobs as previous AFSC 4M0X1 (formerly AFSC 911X0) personnel surveyed in 1988. Job satisfaction data of specific career ladder jobs members show most job members are satisfied with their work. Only the Hypobaric Chamber Instructor and Research Chamber job incumbents feel their talents are not being properly utilized and their work is not particularly interesting.

TABLE 24

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 4M0X1  
TAFMS GROUPS IN CURRENT STUDY TO A COMPARATIVE SAMPLE  
(PERCENT MEMBERS RESPONDING)\*\*

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	AFSC 4M0X1 (N=132)	COMP SAMPLE (N=341)	AFSC 4M0X1 (N=78)	COMP SAMPLE (N=231)	AFSC 4M0X1 (N=149)	COMP SAMPLE (N=387)
<u>EXPRESSED JOB INTEREST:</u>						
INTERESTING	80	78	82	81	84	82
SO-SO	13	12	14	14	9	11
DULL	7	10	4	5	7	7
<u>PERCEIVED USE OF TALENTS:</u>						
FAIRLY WELL TO PERFECT	84	83	90	83	83	86
NONE TO VERY LITTLE	16	17	10	17	17	14
<u>PERCEIVED USE OF TRAINING:</u>						
FAIRLY WELL TO PERFECT	95	89	83	90	87	89
NONE TO VERY LITTLE	5	11	17	10	13	11
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>						
SATISFIED	77	72	79	72	83	73
NEUTRAL	17	9	13	12	5	9
DISSATISFIED	6	19	8	16	12	18
<u>REENLISTMENT INTENTIONS:</u>						
YES OR PROBABLY YES	60	52	82	67	76	78
NO OR PROBABLY NO	40	48	18	32	6	8
WILL RETIRE	0	0	0	1	18	14

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

Comparative data are from AFSCs 4J0X2 and 4P0X1 surveyed in 1993



TABLE 25

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 4M0X1  
TAFMS GROUPS IN CURRENT STUDY TO PREVIOUS STUDY  
(PERCENT MEMBERS RESPONDING)

	<u>1-48 MONTHS TAFMS</u>			<u>49-96 MONTHS TAFMS</u>			<u>97+ MONTHS TAFMS</u>		
	AFSC 4M0X1 (N=132)	1988 AFSC 911X0 (N=180)		AFSC 4M0X1 (N=78)	1988 AFSC 911X0 (N=88)		AFSC 4M0X1 (N=149)	1988 AFSC 911X0 (N=129)	
<u>EXPRESSED JOB INTEREST:</u>									
INTERESTING	80	86		82	88		84	83	
SO-SO	13	9		14	8		9	10	
DULL	7	4		4	3		7	6	
<u>PERCEIVED USE OF TALENTS:</u>									
FAIRLY WELL TO PERFECT	84	85		90	84		83	82	
NONE TO VERY LITTLE	16	14		10	16		17	18	
<u>PERCEIVED USE OF TRAINING:</u>									
FAIRLY WELL TO PERFECT	95	89		83	82		87	78	
NONE TO VERY LITTLE	5	11		17	18		13	22	
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>									
SATISFIED	77	81		79	82		83	72	
NEUTRAL	17	9		13	6		5	9	
DISSATISFIED	6	10		8	12		12	19	
<u>REENLISTMENT INTENTIONS:</u>									
YES OR PROBABLY YES	60	59		82	82		76	73	
NO OR PROBABLY NO	40	40		18	18		6	8	
WILL RETIRE	0	*		0	0		18	19	

\* Denotes less than 1 percent

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 26

JOB SATISFACTION INDICATORS FOR AFSC 4M0X1 JOBS  
(PERCENT MEMBERS RESPONDING)

	ENTRY LEVEL JOB (N=22)	AERO PHYS TECHNICIAN CLUSTER (N=243)	HYPOBARIC EQUIPMENT MAINTENANCE (N=45)	HYPOBARIC CHAMBER INSTRUCTOR (N=29)	PARASAIL/ EJECTION SEAT INSTRUCTOR (N=60)	NCOIC OPERATIONS (N=53)
<u>EXPRESSED JOB INTEREST:</u>						
INTERESTING	86	79	76	62	80	91
SO-SO	0	14	16	31	15	6
DULL	14	6	9	7	3	4
<u>PERCEIVED USE OF TALENTS:</u>						
FAIRLY WELL TO PERFECT	91	85	87	65	89	93
NONE TO VERY LITTLE	9	14	13	34	11	7
<u>PERCEIVED USE OF TRAINING:</u>						
FAIRLY WELL TO PERFECT	100	93	96	86	97	91
NONE TO VERY LITTLE	0	7	4	14	3	9
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>						
SATISFIED	77	81	78	62	78	92
NEUTRAL	9	11	16	31	8	2
DISSATISFIED	14	8	7	7	13	6
<u>REENLISTMENT INTENTIONS:</u>						
YES OR PROBABLY YES	77	72	53	59	73	79
NO OR PROBABLY NO	23	19	44	38	18	2
WILL RETIRE	0	8	2	3	8	19

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 26 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 4M0X1 JOBS  
(PERCENT MEMBERS RESPONDING)

	NCIC MAINTENANCE E (N=51)	HYPERBARIC EQUIPMENT MAINTENANCE (N=6)	HYPERBARIC CHAMBER (N=9)	RESEARCH CHAMBER (N=5)	PRESSURE SUIT (N=29)	TRAINING (N=6)	SUPERINTENDENT (N=12)
<u>EXPRESSED JOB INTEREST:</u>							
INTERESTING	80	83	100	60	86	100	83
SO-SO	10	0	0	40	10	0	17
DULL	8	17	0	0	3	0	0
<u>PERCEIVED USE OF TALENTS:</u>							
FAIRLY WELL TO PERFECT	83	84	67	60	82	100	92
NONE TO VERY LITTLE	16	16	33	40	17	0	8
<u>PERCEIVED USE OF TRAINING:</u>							
FAIRLY WELL TO PERFECT	94	100	78	60	76	67	83
NONE TO VERY LITTLE	6	0	22	40	24	33	17
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>							
SATISFIED	86	83	78	80	79	100	75
NEUTRAL	6	0	11	0	10	0	25
DISSATISFIED	6	17	11	20	10	0	0
<u>REENLISTMENT INTENTIONS:</u>							
YES OR PROBABLY YES	88	83	67	80	69	83	67
NO OR PROBABLY NO	8	17	22	20	31	17	0
WILL RETIRE	2	0	11	0	0	0	33

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

## IMPLICATIONS

This survey was conducted primarily to provide training personnel with current information on the Aerospace Physiology specialty for use in reviewing current training programs and training documents. Results indicate that the jobs have changed little since the last survey in 1988, and members follow a typical career progression pattern. The present classification structure, as described in AFM 36-2108 *Specialty Descriptions*, accurately portrays the jobs in this study.

Analysis of career ladder documents indicates numerous areas of the STS are unsupported by survey data. The POI is more in tune with survey data than the STS; however, both documents should be reviewed by career field functional managers and technical training SMEs.

No serious job satisfaction problems appear to exist in this specialty. Overall, AFSC 4M0X1 members are as satisfied with their jobs as members of a comparative sample of medical career ladder personnel, and current personnel are generally as positive about their jobs as previous AFSC 4M0X1 (formerly AFSC 911X0) personnel surveyed in 1988.

The findings of this OSR come directly from survey data collected from AFSC 4M0X1 personnel worldwide. These data are readily available to training and utilization personnel, functional managers, and other interested parties. Much of the data are compiled into extracts which are excellent tools in the decision-making process. These data extracts should be used when training or utilization decisions are made.

## APPENDIX A

### SELECTED REPRESENTATIVE TASKS PERFORMED BY MEMBERS OF CAREER LADDER JOBS

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TABLE A1

ENTRY LEVEL AEROSPACE PHYSIOLOGY TECHNICIAN  
INDEPENDENT JOB  
(STG 32, N=22)

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
G 223    Serve as chamber operator during hypobaric chamber flights, other than research flights	100
G 228    Serve as recorder during hypobaric chamber flights, other than research flights	100
G 224    Serve as crew chief during hypobaric chamber flights, other than research flights	95
G 227    Serve as lock operator during hypobaric chamber flights, other than research flights	91
G 225    Serve as inside observer during hypobaric chamber flights, other than research flights	86
G 232    Treat chamber reactors for hypoxia	77
J 272    Fit chamber students or patients with oxygen hoods or masks	68
J 273    Fit chamber students with flight helmets	68
G 230    Treat chamber reactors for claustrophobia or apprehension	68
G 231    Treat chamber reactors for hyperventilation	68
D 123    Schedule students for aerospace physiology training classes	64
A 17    Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	64
J 269    Clean flight helmets of chamber students	59
G 208    Connect or disconnect high-pressure oxygen cylinders	59
F 178    Brief rapid decompression during chamber flights	55
E 144    Maintain administrative files	50
D 92    Clean aerospace physiology equipment, training aids, and devices	50
I 262    Serve as crew chief and lock operator during hyperbaric chamber dives	45
I 261    Serve as chamber operator during hyperbaric chamber dives	45
I 266    Serve as timekeeper during hyperbaric chamber dives	45
I 265    Serve as recorder during hyperbaric chamber dives	45
I 264    Serve as lock operator during hyperbaric chamber dives	45
E 131    Conduct tours of aerospace physiology facilities	45
G 233    Treat chamber reactors for mechanical effects of pressure change, such as decompression sickness	45
I 263    Serve as inside observer during hyperbaric chamber dives	41

TABLE A2  
AEROSPACE PHYSIOLOGY TECHNICIAN  
JOB CLUSTER  
(STG 20, N=243)

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
G 232 Treat chamber reactors for hypoxia	95
G 225 Serve as inside observer during hypobaric chamber flights, other than research flights	94
G 231 Treat chamber reactors for hyperventilation	93
G 227 Serve as lock operator during hypobaric chamber flights, other than research flights	92
G 228 Serve as recorder during hypobaric chamber flights, other than research flights	92
F 178 Brief rapid decompression during chamber flights	91
G 223 Serve as chamber operator during hypobaric chamber flights, other than research flights	91
G 230 Treat chamber reactors for claustrophobia or apprehension	89
G 224 Serve as crew chief during hypobaric chamber flights, other than research flights	87
F 173 Brief chamber flight preflight or postflight procedures	82
F 180 Brief use of emergency and portable oxygen systems during hypobaric chamber flights	81
G 226 Serve as lecturer observer during hypobaric chamber flights, other than research flights	81
J 273 Fit chamber students with flight helmets	79
G 208 Connect or disconnect high-pressure oxygen cylinders	78
F 176 Brief hypobaric chamber flight preflight oxygen equipment inspection procedures	77
G 233 Treat chamber reactors for mechanical effects of pressure change, such as decompression sickness	77
F 207 Instruct treatment procedures for hypoxia	77
J 272 Fit chamber students or patients with oxygen hoods or masks	77
F 206 Instruct treatment procedures for hyperventilation	75
A 17 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	72
E 131 Conduct tours of aerospace physiology facilities	70
F 196 Conduct classroom instructions concerning use of oxygen masks	69
F 194 Conduct classroom instructions concerning types of oxygen storage systems	69



TABLE A3  
HYPOBARIC CHAMBER EQUIPMENT  
MAINTENANCE JOB  
(STG 47, N=45)

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
G 228    Serve as recorder during hypobaric chamber flights, other than research flights	100
G 225    Serve as inside observer during hypobaric chamber flights, other than research flights	98
G 224    Serve as crew chief during hypobaric chamber flights, other than research flights	98
G 210    Perform daily inspections of hypobaric chamber assemblies	93
G 223    Serve as chamber operator during hypobaric chamber flights, other than research flights	91
G 211    Perform general maintenance on hypobaric chambers	91
J 272    Fit chamber students or patients with oxygen hoods or masks	91
J 273    Fit chamber students with flight helmets	91
G 227    Serve as lock operator during hypobaric chamber flights, other than research flights	91
G 232    Treat chamber reactors for hypoxia	91
J 269    Clean flight helmets of chamber students	89
G 208    Connect or disconnect high-pressure oxygen cylinders	89
J 277    Recharge chamber portable oxygen assemblies	89
G 229    Store high-pressure oxygen cylinders	89
J 276    Purge chamber portable oxygen assemblies	89
G 231    Treat chamber reactors for hyperventilation	89
G 214    Perform oxygen flow checks of narrow panel pressure-demand oxygen regulators	87
J 268    Assemble life support equipment, such as oxygen masks	84
J 279    Remove or replace oxygen mask components for chamber students	84
E 127    Annotate inspection or maintenance forms	82
J 281    Store oxygen equipment	82
J 275    Perform periodic inspections of oxygen masks	80
G 230    Treat chamber reactors for claustrophobia or apprehension	80
E 128    Annotate records on status or inspections of equipment	78
F 178    Brief rapid decompression during chamber flights	78
G 212    Perform general maintenance on vacuum pumps	78
D 92    Clean aerospace physiology equipment, training aids, and devices	76

TABLE A4

HYPOBARIC CHAMBER INSTRUCTOR JOB  
(STG 43, N=29)

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
G 224    Serve as crew chief during hypobaric chamber flights, other than research flights	97
G 227    Serve as lock operator during hypobaric chamber flights, other than research flights	97
G 228    Serve as recorder during hypobaric chamber flights, other than research flights	97
G 223    Serve as chamber operator during hypobaric chamber flights, other than research flights	97
G 232    Treat chamber reactors for hypoxia	97
F 178    Brief rapid decompression during chamber flights	97
G 231    Treat chamber reactors for hyperventilation	93
G 225    Serve as inside observer during hypobaric chamber flights, other than research flights	90
F 180    Brief use of emergency and portable oxygen systems during hypobaric chamber flights	90
F 173    Brief chamber flight preflight or postflight procedures	86
F 176    Brief hypobaric chamber flight preflight oxygen equipment inspection procedures	86
G 230    Treat chamber reactors for claustrophobia or apprehension	86
G 226    Serve as lecturer observer during hypobaric chamber flights, other than research flights	83
F 207    Instruct treatment procedures for hypoxia	83
F 206    Instruct treatment procedures for hyperventilation	83
F 195    Conduct classroom instructions concerning use of continuous-flow passenger oxygen systems	83
F 196    Conduct classroom instructions concerning use of oxygen masks	79
F 194    Conduct classroom instructions concerning types of oxygen storage systems	79
E 131    Conduct tours of aerospace physiology facilities	76
F 197    Conduct classroom instructions concerning use of oxygen regulators	72
D 92    Clean aerospace physiology equipment, training aids, and devices	72
E 163    Review student critiques	72

TABLE A5  
PARASAIL/EJECTION SEAT  
INSTRUCTOR JOB  
(STG 69, N=60)

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
F 178 Brief rapid decompression during chamber flights	98
G 232 Treat chamber reactors for hypoxia	97
G 231 Treat chamber reactors for hyperventilation	97
G 225 Serve as inside observer during hypobaric chamber flights, other than research flights	95
G 223 Serve as chamber operator during hypobaric chamber flights, other than research flights	95
F 180 Brief use of emergency and portable oxygen systems during hypobaric chamber flights	95
G 227 Serve as lock operator during hypobaric chamber flights, other than research flights	95
G 224 Serve as crew chief during hypobaric chamber flights, other than research flights	93
G 228 Serve as recorder during hypobaric chamber flights, other than research flights	93
F 173 Brief chamber flight preflight or postflight procedures	92
G 226 Serve as lecturer observer during hypobaric chamber flights, other than research flights	90
G 230 Treat chamber reactors for claustrophobia or apprehension	90
F 176 Brief hypobaric chamber flight preflight oxygen equipment inspection procedures	87
F 207 Instruct treatment procedures for hypoxia	85
F 199 Conduct parachute landing fall (PLF) training	83
F 181 Brief use of personal protective equipment	83
F 206 Instruct treatment procedures for hyperventilation	83
G 233 Treat chamber reactors for mechanical effects of pressure change, such as decompression sickness	82
F 182 Brief use of spatial disorientation trainers	80
F 177 Brief in-flight egress procedures	78
F 196 Conduct classroom instructions concerning use of oxygen masks	77
G 208 Connect or disconnect high-pressure oxygen cylinders	77
F 175 Brief ground egress escape procedures	75
F 194 Conduct classroom instructions concerning types of oxygen storage systems	75

TABLE A6

NCOIC OPERATIONS JOB  
(STG 50, N=53)

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
G 232 Treat chamber reactors for hypoxia	94
G 231 Treat chamber reactors for hyperventilation	94
G 230 Treat chamber reactors for claustrophobia or apprehension	94
A 17 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	92
A 12 Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOPs)	92
A 10 Develop work procedures	92
G 225 Serve as inside observer during hypobaric chamber flights, other than research flights	91
A 5 Determine or establish work priorities	91
G 233 Treat chamber reactors for mechanical effects of pressure change, such as decompression sickness	91
A 21 Plan or prepare briefings	89
A 22 Plan or schedule work assignments or priorities	87
A 13 Establish performance standards for subordinates	87
C 58 Conduct performance feedback worksheet (PFW) evaluation sessions	87
B 36 Counsel personnel on personal or military-related matters	85
F 178 Brief rapid decompression during chamber flights	85
C 84 Write EPRs	83
A 15 Establish work methods, controls, or inspection procedures	83
A 16 Establish work schedules	81
C 73 Evaluate personnel for compliance with performance standards	81
G 223 Serve as chamber operator during hypobaric chamber flights, other than research flights	81
G 227 Serve as lock operator during hypobaric chamber flights, other than research flights	81
C 85 Write recommendations for awards and decorations	79
G 226 Serve as lecturer observer during hypobaric chamber flights, other than research flights	79
C 81 inspect personnel for compliance with military standards	79
B 32 Conduct supervisory orientations of newly assigned personnel	79
F 173 Brief chamber flight preflight or postflight procedures	77

TABLE A7  
NCOIC MAINTENANCE JOB  
(STG 61, N=51)

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
F 173 Brief chamber flight preflight or postflight procedures	100
G 226 Serve as lecturer observer during hypobaric chamber flights, other than research flights	100
F 180 Brief use of emergency and portable oxygen systems during hypobaric chamber flights	100
G 225 Serve as inside observer during hypobaric chamber flights, other than research flights	100
F 178 Brief rapid decompression during chamber flights	100
G 227 Serve as lock operator during hypobaric chamber flights, other than research flights	100
G 228 Serve as recorder during hypobaric chamber flights, other than research flights	100
J 273 Fit chamber students with flight helmets	100
G 223 Serve as chamber operator during hypobaric chamber flights, other than research flights	98
G 232 Treat chamber reactors for hypoxia	98
F 176 Brief hypobaric chamber flight preflight oxygen equipment inspection procedures	96
F 207 Instruct treatment procedures for hypoxia	96
F 206 Instruct treatment procedures for hyperventilation	96
J 272 Fit chamber students or patients with oxygen hoods or masks	96
G 231 Treat chamber reactors for hyperventilation	96
G 230 Treat chamber reactors for claustrophobia or apprehension	96
G 224 Serve as crew chief during hypobaric chamber flights, other than research flights	94
G 229 Store high-pressure oxygen cylinders	94
G 208 Connect or disconnect high-pressure oxygen cylinders	94
F 197 Conduct classroom instructions concerning use of oxygen regulators	92
D 92 Clean aerospace physiology equipment, training aids, and devices	90
F 196 Conduct classroom instructions concerning use of oxygen masks	90
F 194 Conduct classroom instructions concerning types of oxygen storage systems	90
J 269 Clean flight helmets of chamber students	90

TABLE A8  
HYPERBARIC CHAMBER MAINTENANCE  
INDEPENDENT JOB  
(STG 31, N=6)

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
B 38 Direct equipment maintenance or utilization	100
E 166 Store equipment, tools, or supplies	100
E 127 Annotate inspection or maintenance forms	100
E 134 Coordinate maintenance or supply matters with appropriate agencies	100
E 129 Compile information for records, reports, or logs	100
E 154 Maintain records on status or inspections of equipment	100
A 18 Plan equipment or facility maintenance requirements	100
A 17 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	100
E 142 Inventory equipment, tools, or supplies	100
A 12 Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOPs)	100
A 10 Develop work procedures	100
A 3 Determine or establish logistics requirements, such as personnel, equipment, space, tools, or supplies	100
J 281 Store oxygen equipment	100
E 146 Maintain documentation on items requiring periodic inspections	83
E 128 Annotate records on status or inspections of equipment	83
E 133 Coordinate maintenance of equipment with appropriate agencies	83
C 69 Evaluate logistics requirements, such as personnel, equipment, space, tools, or supplies	83
A 5 Determine or establish work priorities	83
C 82 Perform safety inspections of facilities or equipment	83
J 272 Fit chamber students or patients with oxygen hoods or masks	83
I 245 Charge compressed-air flasks	83
J 274 Inspect pressure-demand oxygen components	83
C 75 Evaluate procedures for storage, inventory, or inspection of property items	83
I 250 Perform daily inspections of low-pressure compressors	83
J 277 Recharge chamber portable oxygen assemblies	83
C 58 Conduct performance feedback worksheet (PFW) evaluation sessions	67

TABLE A9  
HYPERBARIC CHAMBER  
INDEPENDENT JOB  
(STG 30, N=9)

<u>TASKS</u>		<u>PERCENT MEMBERS PERFORMING</u>
I 248	Load or remove patients in hyperbaric chambers	100
I 262	Serve as crew chief and lock operator during hyperbaric chamber dives	100
I 261	Serve as chamber operator during hyperbaric chamber dives	100
I 263	Serve as inside observer during hyperbaric chamber dives	100
I 246	Clean hyperbaric chambers	100
J 272	Fit chamber students or patients with oxygen hoods or masks	78
I 264	Serve as lock operator during hyperbaric chamber dives	78
I 249	Perform daily inspections of hyperbaric chamber assemblies	78
J 281	Store oxygen equipment	78
A 17	Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	78
E 144	Maintain administrative files	67
I 265	Serve as recorder during hyperbaric chamber dives	67
I 266	Serve as timekeeper during hyperbaric chamber dives	67
E 140	Initiate requests for hazardous duty orders	67
I 245	Charge compressed-air flasks	67
E 152	Maintain publication libraries or files	67
E 156	Maintain stock levels of blank forms	67
I 250	Perform daily inspections of low-pressure compressors	56
E 135	Distribute aerospace physiology records or reports	44
A 22	Plan or schedule work assignments or priorities	44
F 198	Conduct hyperbaric chamber team training	44
E 129	Compile information for records, reports, or logs	44
E 131	Conduct tours of aerospace physiology facilities	44
E 166	Store equipment, tools, or supplies	44
A 21	Plan or prepare briefings	44
D 92	Clean aerospace physiology equipment, training aids, and devices	33
I 251	Perform general maintenance on hyperbaric chamber assemblies	33
A 1	Assign personnel to duty positions	33
I 267	Take periodic samples of air in compressed-air flasks	33
J 268	Assemble life support equipment, such as oxygen masks	33

TABLE A10

RESEARCH CHAMBER  
INDEPENDENT JOB  
(STG 22, N=5)

<u>TASKS</u>		<u>PERCENT MEMBERS PERFORMING</u>
M 421	Size and fit research subjects with oxygen equipment	100
A 17	Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	100
M 410	Serve as chamber operator during research chamber flights	80
M 413	Serve as inside observer during research chamber flights	80
M 416	Serve as outside observer during research chamber flights	80
M 418	Serve as recorder during research chamber flights	80
G 233	Treat chamber reactors for mechanical effects of pressure change, such as decompression sickness	80
F 173	Brief chamber flight preflight or postflight procedures	80
G 208	Connect or disconnect high-pressure oxygen cylinders	80
M 412	Serve as crew chief during research chamber flights	60
M 414	Serve as lock operator during research chamber flights	60
E 131	Conduct tours of aerospace physiology facilities	60
A 10	Develop work procedures	60
G 232	Treat chamber reactors for hypoxia	60
G 231	Treat chamber reactors for hyperventilation	60
G 230	Treat chamber reactors for claustrophobia or apprehension	60
M 403	Record experimental data	40
M 371	Calibrate analytical devices, such as flowmeters or recording equipment	40
A 12	Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOPs)	40
A 16	Establish work schedules	40
M 380	Operate in-flight monitoring equipment	40
M 423	Test oxygen masks, pressure suits, or chemical defense gear for inboard leakages	40
G 213	Perform oxygen flow checks of A-14 pressure-demand oxygen regulators	40
J 273	Fit chamber students with flight helmets	40
J 277	Recharge chamber portable oxygen assemblies	40
J 276	Purge chamber portable oxygen assemblies	40
J 268	Assemble life support equipment, such as oxygen masks	40



TABLE A11

PRESSURE SUIT  
INDEPENDENT JOB  
(STG 37, N=29)

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
K 287 Clean pressure suits	100
K 288 Connect or disconnect crewmembers to aircraft systems	93
K 316 Perform preflight or postflight inspections of full pressure suits	93
K 307 Perform periodic inspections of full pressure suits	93
K 300 Pack pressure suit assemblies for shipment	93
K 286 Cement pressure suit assemblies	93
I 261 Serve as chamber operator during hyperbaric chamber dives	93
K 289 Fill portable liquid oxygen (LOX) ventilation units	90
G 227 Serve as lock operator during hypobaric chamber flights, other than research flights	90
I 266 Serve as timekeeper during hyperbaric chamber dives	90
K 302 Perform occupied full pressure suit integration tests	86
K 322 Remove or replace full pressure suit components	86
K 284 Assemble or disassemble pressure suit hardware, such as neck rings or urine collection valves	86
G 223 Serve as chamber operator during hypobaric chamber flights, other than research flights	86
I 263 Serve as inside observer during hyperbaric chamber dives	86
I 264 Serve as lock operator during hyperbaric chamber dives	86
I 262 Serve as crew chief and lock operator during hyperbaric chamber dives	86
G 225 Serve as inside observer during hypobaric chamber flights, other than research flights	83
G 228 Serve as recorder during hypobaric chamber flights, other than research flights	83
I 265 Serve as recorder during hyperbaric chamber dives	83
K 303 Perform overhaul inspections of full pressure suits	79
J 273 Fit chamber students with flight helmets	76
G 232 Treat chamber reactors for hypoxia	72
K 317 Perform preflight or postflight inspections of low-flight oxygen regulators	69
K 293 Isolate full pressure suit malfunctions	69
G 208 Connect or disconnect high-pressure oxygen cylinders	69

TABLE A12

TRAINING  
INDEPENDENT JOB  
(STG 46, N=6)

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
D 115 Evaluate progress of trainees	100
D 116 Evaluate training methods or techniques	100
D 120 Plan or schedule training	100
D 98 Counsel trainees on training progress	100
D 88 Administer or score training tests	100
D 96 Conduct training conferences or briefings	100
D 103 Determine student training schedules	100
D 97 Construct or develop training materials, aids, or devices	100
D 108 Develop or draft lesson plans	100
D 111 Evaluate effectiveness of training programs	83
D 99 Critique student test results with students	83
A 28 Schedule student training requirements	83
D 118 Maintain training instructor folders	83
D 119 Participate in training conferences or briefings	83
D 113 Evaluate or inspect training materials, aids, or devices for operation or suitability	83
D 121 Procure training aids, devices, space, or equipment	83
A 13 Establish performance standards for subordinates	83
D 100 Design student training literature	83
D 122 Review student training literature	83
A 17 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	83
E 131 Conduct tours of aerospace physiology facilities	83
D 94 Conduct OJT upgrade training	67
D 114 Evaluate personnel for training needs	67
D 112 Evaluate effectiveness of training, such as career knowledge upgrade, job proficiency upgrade, or qualification training	67
D 101 Determine OJT upgrade or resident course training requirements	67
E 163 Review student critiques	67
B 33 Coordinate class scheduling with affected organizations	67
D 104 Determine training requirements, other than OJT upgrade, resident course, or student training requirements	67

TABLE A13

SUPER. INDEPENDENT  
INDEPENDENT JOB  
(STG 35, N=12)

<u>TASKS</u>		<u>PERCENT MEMBERS PERFORMING</u>
C 59	Conduct self-inspections	100
C 58	Conduct performance feedback worksheet (PFW) evaluation sessions	100
A 17	Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	92
C 85	Write recommendations for awards and decorations	92
C 84	Write EPRs	92
A 5	Determine or establish work priorities	83
B 36	Counsel personnel on personal or military-related matters	83
C	Evaluate personnel for compliance with performance standards	83
C 74	Evaluate personnel for promotion, demotion, reclassification, or special awards	83
A 13	Establish performance standards for subordinates	83
A 26	Review drafts of regulations, manuals, or other directives	83
A 9	Develop self-inspection program checklists	75
C 80	Indorse enlisted performance reports (EPRs)	75
A 3	Determine or establish logistics requirements, such as personnel, equipment, space, tools, or supplies	75
B 42	Implement self-inspection programs	75
C 69	Evaluate logistics requirements, such as personnel, equipment, space, tools, or supplies	75
A 29	Write job or position descriptions	75
A 2	Assign sponsors for incoming personnel	75
B 45	Initiate actions required due to substandard performance of personnel	75
A 10	Develop work procedures	67
C 81	Inspect personnel for compliance with military standards	67
A 24	Plan self-inspection programs	67
B 31	Conduct staff meetings or briefings	67
B 48	Interpret policies, directives, or procedures for subordinates	67
F 178	Brief rapid decompression during chamber flights	67
A 27	Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	67

## APPENDIX B

### EXPANDED LISTING OF TASK MODULES AND TASK STATEMENTS

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These Task Modules (TMs) were developed in order to organize and summarize the extensive task information of this specialty. The TMs were developed by clustering tasks which are coproduced by the same incumbents. Coproduction is a measure of how probable a task will be performed with another task, based upon the responses of surveyed personnel. For example, if an individual performs one Supply Duty task, the probability is very high that he or she will perform other Supply Duty tasks. Thus, the group of Supply Duty tasks can be considered a "natural group" of associated or related tasks (see TM 0001 below). The statistical clustering generally approximates these "natural groupings."

The title of each TM is a best estimate as to the generic subject content of the group of tasks. The TMs are useful for organizing the task data into meaningful units and as a way to concisely summarize the extensive job data. However, TMs are only one way to organize the information. Other strategies may also be valid.

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0001 ST0054 SUPPLY DUTIES

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- 1 E 132 Coordinate local purchase of equipment or supplies with appropriate agencies
- 2 E 133 Coordinate maintenance of equipment with appropriate agencies
- 3 E 134 Coordinate maintenance or supply matters with appropriate agencies
- 4 E 137 Draft or write requisitions for equipment, tools, or supplies, other than for local purchase
- 5 E 138 Draft or write requisitions for local purchase of equipment, tools, or supplies
- 6 E 139 Identify supply problems
- 7 E 142 Inventory equipment, tools, or supplies
- 8 E 143 Issue or log turn-ins of equipment, tools, or supplies
- 9 E 145 Maintain base equipment or supply accounts
- 10 E 148 Maintain medical equipment or supply accounts
- 11 E 150 Maintain organizational equipment or supply records
- 12 E 159 Perform receiving inspections of incoming equipment
- 13 E 161 Research supply requisition data, such as supply catalogs or master cross-reference listings (MCRLs)
- 14 E 164 Screen defense reutilization and marketing office (DRMO) property
- 15 E 166 Store equipment, tools, or supplies
- 16 E 167 Trace lost physiological support equipment
- 17 E 168 Validate changes in equipment allowances or authorizations

- 18 E 169 Validate supply transaction listings or rosters, such as  
D-04, D-18, D-19, D-23, or M-30
- 19 E 170 Write letters of justification for supply-related matters

*Approved  
by [signature]*

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0002 ST0062 PARACHUTE/EJECTION INSTRUCTION  
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- 1 F 174 Brief ejection seat trainer pre-ejection procedures
- 2 F 179 Brief use of ejection seat trainers
- 3 F 184 Brief water survival procedures during which pressure suits  
are not worn
- 4 F 192 Conduct classroom instructions concerning self first aid  
training
- 5 F 193 Conduct classroom instructions concerning survival  
principles and procedures, other than crash survival
- 6 F 199 Conduct parachute landing fall (PLF) training
- 7 F 201 Evaluate student performances during live-fire ejection  
seat training
- 8 F 204 Instruct in-flight egress principles and procedures without  
use of procedural trainers
- 9 J 282 Store training aids, such as parachute harnesses,  
parachutes, radio equipment, or locator beacons
- 10 L 332 Instruct and evaluate students during descent and landing  
training
- 11 L 333 Instruct and evaluate students on parachute drag training  
devices
- 12 L 334 Instruct and evaluate students on PLF platforms
- 13 L 335 Load or unload parasail equipment
- 14 L 336 Operate air egress procedural trainers
- 15 L 337 Operate ground egress procedural trainers
- 16 L 338 Operate live-fire ejection seat trainers
- 17 L 363 Serve as canopy assistance operator on parachute  
familiarization training teams
- 18 L 364 Serve as crew chief on parachute familiarization training  
teams
- 19 L 365 Serve as hookup crewmember on swing landing trainers
- 20 L 366 Serve as landing zone supervisor on parachute  
familiarization training teams
- 21 L 367 Serve as release operator on parachute familiarization  
training teams
- 22 L 368 Serve as truck driver on parachute familiarization training  
teams

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0003 ST0063 PRESSURE SUIT MAINTENANCE

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- 1 K 283 Adjust full pressure suits
- 2 K 284 Assemble or disassemble pressure suit hardware, such as  
neck rings or urine collection valves
- 3 K 285 Calibrate pressure suit test equipment
- 4 K 286 Cement pressure suit assemblies
- 5 K 287 Clean pressure suits
- 6 K 288 Connect or disconnect crewmembers to aircraft systems
- 7 K 289 Fill portable liquid oxygen (LOX) ventilation units
- 8 K 290 Inspect emergency oxygen cylinders
- 9 K 291 Inspect pressure suit assemblies for shipment
- 10 K 293 Isolate full pressure suit malfunctions
- 11 K 294 Isolate portable LOX ventilation unit malfunctions
- 12 K 295 Isolate pressure suit controller malfunctions
- 13 K 296 Isolate pressure suit oxygen regulator malfunctions
- 14 K 297 Maintain benchstock of spare parts for pressure suits
- 15 K 298 Maintain pressure suit test equipment
- 16 K 299 Maintain transport van-installed equipment
- 17 K 300 Pack pressure suit assemblies for shipment
- 18 K 301 Perform daily inspections of LOX storage carts
- 19 K 302 Perform occupied full pressure suit integration tests
- 20 K 303 Perform overhaul inspections of full pressure suits
- 21 K 304 Perform overhaul inspections of low-flight oxygen  
regulators
- 22 K 305 Perform overhaul inspections of pressure suit controllers
- 23 K 306 Perform overhaul inspections of pressure suit oxygen  
regulators
- 24 K 307 Perform periodic inspections of full pressure suits
- 25 K 308 Perform periodic inspections of low-flight oxygen  
regulators
- 26 K 311 Perform periodic inspections of portable LOX ventilation  
units
- 27 K 312 Perform periodic inspections of pressure suit controllers
- 28 K 313 Perform periodic inspections of pressure suit oxygen  
regulators
- 29 K 314 Perform periodic inspections of pressure suit ventilation  
hose assemblies
- 30 K 315 Perform periodic inspections of transport van-installed  
equipment
- 31 K 316 Perform preflight or postflight inspections of full  
pressure suits



- 32 K 317 Perform preflight or postflight inspections of low-flight oxygen regulators
- 33 K 318 Perform preflight or postflight inspections of portable LOX ventilation units
- 34 K 320 Perform special inspections of full pressure suits
- 35 K 322 Remove or replace full pressure suit components
- 36 K 323 Remove or replace low-flight oxygen regulator components
- 37 K 324 Remove or replace portable LOX ventilation unit components
- 38 K 325 Remove or replace pressure suit controller components
- 39 K 326 Remove or replace pressure suit oxygen regulator components
- 40 K 327 Remove or replace pressure suit ventilation hose assembly components
- 41 K 328 Sew pressure suit assemblies
- 42 K 329 Size and fit full pressure suits

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0004 ST0064 HAAMS DUTIES

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- 1 E 141 Initiate TDY orders or amendments
- 2 H 234 Assign mission taskings for high altitude airdrop mission support (HAAMS) observers
- 3 H 235 Brief aircraft commanders concerning disposition of flight reactors
- 4 H 236 Brief aircrews and parachutists concerning high altitude hazards
- 5 H 237 Coordinate HAAMS mission requirements with appropriate agencies
- 6 H 238 Identify missions requiring HAAMS observers
- 7 H 239 Install HAAMS oxygen systems in aircraft
- 8 H 240 Load or unload HAAMS oxygen systems in aircraft
- 9 H 241 Monitor exposure times above 10,000 feet
- 10 H 242 Monitor prebreathing times below 10,000 feet
- 11 H 243 Observe HAAMS and aircrew parachutists
- 12 H 244 Unload HAAMS oxygen systems from aircraft

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0005 ST0065 AFSC 4M0X1 TRAINING

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- 1 A 28 Schedule student training requirements
- 2 B 33 Coordinate class scheduling with affected organizations
- 3 D 88 Administer or score training tests

- 4 D 91 Brief organizational personnel concerning training programs or matters
- 5 D 93 Conduct instructor in-house training
- 6 D 95 Conduct resident course classroom training
- 7 D 96 Conduct training conferences or briefings
- 8 D 97 Construct or develop training materials, aids, or devices
- 9 D 99 Critique student test results with students
- 10 D 100 Design student training literature
- 11 D 101 Determine OJT upgrade or resident course training requirements
- 12 D 102 Determine student training requirements
- 13 D 103 Determine student training schedules
- 14 D 108 Develop or draft lesson plans
- 15 D 110 Establish or maintain study reference files
- 16 D 111 Evaluate effectiveness of training programs
- 17 D 112 Evaluate effectiveness of training, such as career knowledge upgrade, job proficiency upgrade, or [qualification training
- 18 D 113 Evaluate or inspect training materials, aids, or devices for operation or suitability
- 19 D 117 Evaluate training requirements for training instructors
- 20 D 118 Maintain training instructor folders
- 21 D 121 Procure training aids, devices, space, or equipment
- 22 D 122 Review student training literature

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0006 ST0059 ORGANIZATIONAL/SUPERVISORY DUTIES

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- 1 A 1 Assign personnel to duty positions
  - 2 A 2 Assign sponsors for incoming personnel
  - 3 A 3 Determine or establish logistics requirements, such as personnel, equipment, space, tools, or supplies
  - 4 A 5 Determine or establish work priorities
  - 5 A 6 Develop cost-reduction programs
  - 6 A 7 Develop inputs to mobility, contingency, disaster preparedness, unit emergency, or alert plans
  - 7 A 8 Develop organizational or functional charts
  - 8 A 9 Develop self-inspection program checklists
  - 9 A 10 Develop work procedures
  - 10 A 11 Draft budget requirements
  - 11 A 12 Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOPs)
  - 12 A 13 Establish performance standards for subordinates

- 13 A 14 Establish procedures for accountability of equipment,  
tools, or supplies
- 14 A 15 Establish work methods, controls, or inspection procedures
- 15 A 16 Establish work schedules
- 16 A 18 Plan equipment or facility maintenance requirements
- 17 A 19 Plan equipment replacement programs
- 18 A 20 Plan layouts of facilities
- 19 A 22 Plan or schedule work assignments or priorities
- 20 A 23 Plan safety or security programs
- 21 A 24 Plan self-inspection programs
- 22 A 25 Prepare agenda for meetings, such as staff meetings,  
conferences, or workshops
- 23 A 26 Review drafts of regulations, manuals, or other directives
- 24 A 27 Schedule personnel for temporary duty (TDY) assignments,  
leaves, or passes
- 25 A 29 Write job or position descriptions
- 26 B 31 Conduct staff meetings or briefings
- 27 B 32 Conduct supervisory orientations of newly assigned  
personnel
- 28 B 34 Coordinate physiological questions or problems with  
affected organizations
- 29 B 35 Coordinate temporary equipment loans with affected agencies
- 30 B 36 Counsel personnel on personal or military-related matters
- 31 B 37 Direct development or maintenance of status indicators,  
such as boards, graphs, or charts
- 32 B 38 Direct equipment maintenance or utilization
- 33 B 39 Direct recommendations for policy changes in logistics  
requirements, such as personnel, equipment, space, or  
supplies
- 34 B 40 Implement cost-reduction programs
- 35 B 41 Implement safety or security programs
- 36 B 42 Implement self-inspection programs
- 37 B 43 Implement suggestion programs
- 38 B 44 Implement work methods or inspection procedures
- 39 B 45 Initiate actions required due to substandard performance of  
personnel
- 40 B 46 Initiate personnel action requests, such as AF Forms 2095  
(Assignment/Personnel Action)
- 41 B 47 Initiate requests for personnel replacements
- 42 B 48 Interpret policies, directives, or procedures for  
subordinates
- 43 B 49 Supervise Aerospace Physiology Apprentices (AFSC  
4M031)
- 44 B 50 Supervise Aerospace Physiology Journeymen (AFSC 4M051)
- 45 B 51 Supervise Aerospace Physiology Craftsmen (AFSC 4M071)

- 46 C 55 Analyze maintenance or inspection reports
- 47 C 56 Analyze workload requirements
- 48 C 58 Conduct performance feedback worksheet (PFW) evaluation sessions
- 49 C 59 Conduct self-inspections
- 50 C 63 Evaluate budget requirements
- 51 C 65 Evaluate findings of inspection reports
- 52 C 66 Evaluate job hazards or compliance with Air Force Occupational Safety and Health (AFOSH) Program standards
- 53 C 67 Evaluate job or position descriptions
- 54 C 68 Evaluate layouts of facilities
- 55 C 69 Evaluate logistics requirements, such as personnel, equipment, space, tools, or supplies
- 56 C 70 Evaluate maintenance of equipment, tools, supplies, or workspace
- 57 C 71 Evaluate mobility, contingency, disaster preparedness, unit emergency, or alert plans
- 58 C 73 Evaluate personnel for compliance with performance standards
- 59 C 74 Evaluate personnel for promotion, demotion, reclassification, or special awards
- 60 C 75 Evaluate procedures for storage, inventory, or inspection of property items
- 61 C 76 Evaluate safety or security programs
- 62 C 77 Evaluate suggestions
- 63 C 78 Evaluate work schedules
- 64 C 80 Indorse enlisted performance reports (EPRs)
- 65 C 81 Inspect personnel for compliance with military standards
- 66 C 82 Perform safety inspections of facilities or equipment
- 67 C 84 Write EPRs
- 68 C 85 Write recommendations for awards and decorations
- 69 C 86 Write replies to inspection reports
- 70 C 87 Write staff studies, surveys, or special reports, other than training reports
- 71 D 90 Assign on-the-job training (OJT) trainers
- 72 D 94 Conduct OJT upgrade training
- 73 D 98 Counsel trainees on training progress
- 74 D 114 Evaluate personnel for training needs
- 75 D 115 Evaluate progress of trainees
- 76 D 116 Evaluate training methods or techniques

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0007 ST0086 ADMINISTRATIVE DUTIES

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- 1 A 4 Determine or establish publications requirements
- 2 E 129 Compile information for records, reports, or logs
- 3 E 135 Distribute aerospace physiology records or reports
- 4 E 140 Initiate requests for hazardous duty orders
- 5 E 144 Maintain administrative files
- 6 E 152 Maintain publication libraries or files
- 7 E 156 Maintain stock levels of blank forms
- 8 E 171 Write minutes of meetings, briefings, or conferences

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0008 ST0087 PRESSURE SUIT INSTRUCTION

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- 1 F 183 Brief water survival procedures during which pressure suit assemblies are worn
- 2 F 191 Conduct classroom instructions concerning pressure suit principles
- 3 F 200 Debrief pressure suit performance following chamber flights
- 4 F 203 Evaluate water survival performances of students wearing pressure suit assemblies

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0009 ST0072 GENERAL EQUIPMENT MAINTENANCE

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- 1 E 127 Annotate inspection or maintenance forms
- 2 E 128 Annotate records on status or inspections of equipment
- 3 E 146 Maintain documentation on items requiring periodic inspections
- 4 E 147 Maintain equipment status indicators, such as boards, graphs, charts, or computerized programs
- 5 E 151 Maintain precision measurement equipment (PME) calibration schedules
- 6 E 154 Maintain records on status or inspections of equipment
- 7 E 165 Solder wiring
- 8 G 210 Perform daily inspections of hypobaric chamber assemblies
- 9 G 211 Perform general maintenance on hypobaric chambers
- 10 G 212 Perform general maintenance on vacuum pumps
- 11 G 213 Perform oxygen flow checks of A-14 pressure-demand oxygen regulators

- 12 G 214 Perform oxygen flow checks of narrow panel pressure-demand oxygen regulators
- 13 G 215 Perform periodic inspections of hypobaric chamber assemblies
- 14 G 216 Perform special inspections of hypobaric chamber assemblies
- 15 G 218 Remove or replace high-pressure oxygen regulators
- 16 G 219 Remove or replace hypobaric chamber console oxygen equipment items
- 17 G 220 Remove or replace hypobaric chamber intercommunications system components
- 18 G 221 Remove or replace hypobaric chamber oxygen plumbing, such as tubing or fittings
- 19 G 222 Remove or replace operator panel instruments
- 20 J 268 Assemble life support equipment, such as oxygen masks
- 21 J 271 Construct life support equipment, other than custom-fitted oxygen masks
- 22 J 274 Inspect pressure-demand oxygen components
- 23 J 275 Perform periodic inspections of oxygen masks
- 24 J 276 Purge chamber portable oxygen assemblies
- 25 J 277 Recharge chamber portable oxygen assemblies
- 26 J 278 Remove or replace flight helmet intercommunications systems components for chamber students
- 27 J 279 Remove or replace oxygen mask components for chamber students
- 28 J 280 Schedule inspections or maintenance of life support equipment, other than pressure suit assemblies
- 29 J 281 Store oxygen equipment

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0010 ST0089 HYPERBARIC CHAMBER OPERATIONS

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- 1 F 198 Conduct hyperbaric chamber team training
- 2 I 248 Load or remove patients in hyperbaric chambers
- 3 I 261 Serve as chamber operator during hyperbaric chamber dives
- 4 I 262 Serve as crew chief and lock operator during hyperbaric chamber dives
- 5 I 263 Serve as inside observer during hyperbaric chamber dives
- 6 I 264 Serve as lock operator during hyperbaric chamber dives
- 7 I 265 Serve as recorder during hyperbaric chamber dives
- 8 I 266 Serve as timekeeper during hyperbaric chamber dives

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0011 ST0026 RESEARCH CHAMBER MAINTENANCE

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- 1 E 160 Recruit volunteers for research protocols
- 2 E 162 Review research subject records
- 3 M 373 Connect or disconnect centrifuges to personal equipment
- 4 M 374 Connect or disconnect subjects to biomedical  
instrumentations
- 5 M 375 Design centrifuge seat configurations
- 6 M 377 Install gas systems on centrifuges
- 7 M 382 Perform daily inspections of centrifuges
- 8 M 386 Perform daily inspections of refrigeration systems
- 9 M 388 Perform periodic inspections of centrifuges
- 10 M 392 Perform periodic inspections of refrigeration systems
- 11 M 395 Perform prerun or postrun inspections of centrifuges
- 12 M 396 Perform special inspections of centrifuges
- 13 M 400 Perform weekly inspections of centrifuges and related  
equipment
- 14 M 401 Perform 200-hour inspections of centrifuges
- 15 M 402 Perform 500-hour inspections of centrifuges
- 16 M 411 Serve as crew chief during centrifuge operations

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0012 ST0093 PARACHUTE/EJECTION EQUIPMENT MAINTENANCE

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- 1 L 341 Perform daily inspections of air egress procedural trainers
- 2 L 342 Perform daily inspections of ground egress procedural  
trainers
- 3 L 343 Perform daily inspections of live-fire ejection seat  
trainers
- 4 L 345 Perform daily inspections of parachute familiarization  
training equipment
- 5 L 346 Perform daily inspections of parasail communications  
equipment
- 6 L 348 Perform field-level maintenance on parachute  
familiarization training equipment
- 7 L 349 Perform field-level maintenance on parasail equipment
- 8 L 350 Perform general maintenance on live-fire ejection seat  
trainers
- 9 L 351 Perform operator maintenance on parasail communications  
equipment
- 10 L 352 Perform operator maintenance on parasail tow vehicles, such  
as monitor fluid levels

- 11 L 353 Perform periodic inspections of live-fire ejection seat trainers
- 12 L 355 Perform periodic inspections of parachute familiarization training equipment
- 13 L 357 Perform special inspections of live-fire ejection seat trainers
- 14 L 359 Remove or replace air egress procedural trainer components
- 15 L 360 Remove or replace cockpit trainer components
- 16 L 361 Remove or replace ground egress procedural trainer components
- 17 L 362 Remove or replace spatial disorientation trainer components, such as projector bulbs
- 18 L 369 Splice tow ropes used in parachute familiarization training
- 19 L 370 Visually inspect swing landing trainers

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#### 0013 ST0105 EGRESS INSTRUCTION

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- 1 F 172 Brief aerospace physiology subjects, such as hypoxia or sensory illusions
- 2 F 175 Brief ground egress escape procedures
- 3 F 177 Brief in-flight egress procedures
- 4 F 182 Brief use of spatial disorientation trainers
- 5 F 186 Conduct classroom instructions concerning crash survival
- 6 F 187 Conduct classroom instructions concerning ground egress escape procedures
- 7 F 188 Conduct classroom instructions concerning in-flight egress escape procedures
- 8 F 190 Conduct classroom instructions concerning parachuting principles and procedures
- 9 L 339 Operate night vision trainers
- 10 L 340 Operate spatial disorientation trainers

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#### 0014 ST0124 MANAGERIAL DUTIES

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- 1 A 17 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting
- 2 A 21 Plan or prepare briefings
- 3 D 119 Participate in training conferences or briefings



- 4 D 120 Plan or schedule training
- 5 D 123 Schedule students for aerospace physiology training classes
- 6 E 163 Review student critiques

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0015 ST0144 MISCELLANEOUS MAINTENANCE

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- 1 K 292 Isolate aircraft communication cable malfunctions
- 2 K 309 Perform periodic inspections of LOX storage carts
- 3 K 310 Perform periodic inspections of nitrogen carts
- 4 K 321 Remove or replace defective pins in aircraft communications cables

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0016 ST0164 RESEARCH CHAMBER CREW DUTIES

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- 1 M 410 Serve as chamber operator during research chamber flights
- 2 M 412 Serve as crew chief during research chamber flights
- 3 M 413 Serve as inside observer during research chamber flights
- 4 M 414 Serve as lock operator during research chamber flights
- 5 M 416 Serve as outside observer during research chamber flights
- 6 M 418 Serve as recorder during research chamber flights
- 7 M 421 Size and fit research subjects with oxygen equipment

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0017 ST0171 SPECIAL HYPERBARIC CHAMBER MAINTENANCE

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- 1 I 252 Perform periodic inspections of high-pressure compressors
- 2 I 254 Perform special inspections of high-pressure compressors
- 3 I 255 Perform special inspections of hyperbaric chamber assemblies
- 4 I 257 Perform 100-hour inspections of high-pressure compressors
- 5 I 258 Perform 200-hour inspections of high-pressure compressors
- 6 I 259 Remove or replace hyperbaric chamber intercommunications system components

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0018 ST0179 ROUTINE HYPERBARIC CHAMBER MAINTENANCE

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- 1 I 245 Charge compressed-air flasks
- 2 I 246 Clean hyperbaric chambers
- 3 I 249 Perform daily inspections of hyperbaric chamber assemblies
- 4 I 250 Perform daily inspections of low-pressure compressors
- 5 I 251 Perform general maintenance on hyperbaric chamber assemblies
- 6 I 253 Perform periodic inspections of hyperbaric chamber assemblies
- 7 I 267 Take periodic samples of air in compressed-air flasks

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0019 ST0187 NIGHT VISION/SPATIAL DISORIENTATION EQUIPMENT  
MAINTENANCE

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- 1 L 344 Perform daily inspections of night vision trainers
- 2 L 347 Perform daily inspections of spatial disorientation trainers
- 3 L 354 Perform periodic inspections of night vision trainers
- 4 L 356 Perform periodic inspections of spatial disorientation trainers
- 5 L 358 Perform special inspections of night vision trainers

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0020 ST0214 AEROSPACE PHYSIOLOGY CLASSROOM INSTRUCTION

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- 1 F 173 Brief chamber flight preflight or postflight procedures
- 2 F 176 Brief hypobaric chamber flight preflight oxygen equipment inspection procedures
- 3 F 180 Brief use of emergency and portable oxygen systems during hypobaric chamber flights
- 4 F 181 Brief use of personal protective equipment
- 5 F 185 Conduct classroom instructions concerning aircraft pressurization principles and problems
- 6 F 189 Conduct classroom instructions concerning night vision principles and problems
- 7 F 194 Conduct classroom instructions concerning types of oxygen storage systems
- 8 F 195 Conduct classroom instructions concerning use of continuous-flow passenger oxygen systems

- 9 F 196 Conduct classroom instructions concerning use of oxygen masks
- 10 F 197 Conduct classroom instructions concerning use of oxygen regulators
- 11 F 205 Instruct treatment procedures for decompression sickness
- 12 F 206 Instruct treatment procedures for hyperventilation
- 13 F 207 Instruct treatment procedures for hypoxia
- 14 G 226 Serve as lecturer observer during hypobaric chamber flights, other than research flights

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#### 0021 ST0228 IN-FLIGHT MONITORING EQUIPMENT

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- 1 M 371 Calibrate analytical devices, such as flowmeters or recording equipment
- 2 M 376 Fit crewmembers with in-flight monitoring equipment
- 3 M 380 Operate in-flight monitoring equipment
- 4 M 403 Record experimental data

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#### 0022 ST0225 CENTRIFUGE CREW DUTIES

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- 1 M 409 Serve as central observer during centrifuge operations
- 2 M 415 Serve as operator during centrifuge operations
- 3 M 417 Serve as recorder during centrifuge operations
- 4 M 419 Set centrifuge seat configurations

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#### 0023 ST0249 HYPOBARIC CHAMBER CREW DUTIES

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- 1 D 92 Clean aerospace physiology equipment, training aids, and devices
- 2 F 178 Brief rapid decompression during chamber flights
- 3 G 208 Connect or disconnect high-pressure oxygen cylinders
- 4 G 223 Serve as chamber operator during hypobaric chamber flights, other than research flights
- 5 G 224 Serve as crew chief during hypobaric chamber flights, other than research flights
- 6 G 225 Serve as inside observer during hypobaric chamber flights, other than research flights
- 7 G 227 Serve as lock operator during hypobaric chamber flights, other than research flights

- 8 G 228 Serve as recorder during hypobaric chamber flights, other than research flights
- 9 G 229 Store high-pressure oxygen cylinders
- 10 G 230 Treat chamber reactors for claustrophobia or apprehension
- 11 G 231 Treat chamber reactors for hyperventilation
- 12 G 232 Treat chamber reactors for hypoxia
- 13 J 269 Clean flight helmets of chamber students
- 14 J 272 Fit chamber students or patients with oxygen hoods or masks
- 15 J 273 Fit chamber students with flight helmets

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0024 Tasks not referenced

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- 1 B 30 Annotate timesheets for civilian employees
- 2 B 52 Supervise Aerospace Physiology Superintendents (AFSC 4M091)
- 3 B 53 Supervise civilians
- 4 B 54 Supervise military personnel with AFSCs other than AFSC 4M0X1
- 5 C 57 Complete USAF Graduate Evaluation Program forms or questionnaires
- 6 C 60 Conduct staff assistance visits (SAVs)
- 7 C 61 Develop USAF Graduate Evaluation Program forms or questionnaires
- 8 C 62 Evaluate accident or incident reports
- 9 C 64 Evaluate equipment development or modification data
- 10 C 72 Evaluate modified or prototype equipment
- 11 C 79 Indorse civilian performance appraisals
- 12 C 83 Write civilian performance appraisals
- 13 D 89 Annotate student withdrawal or entry forms
- 14 D 104 Determine training requirements, other than OJT upgrade, resident course, or student training requirements
- 15 D 105 Develop career development courses (CDCs)
- 16 D 106 Develop equipment training programs
- 17 D 107 Develop formal course curricula, plans of instructions (POIs), or specialty training standards (STSs)
- 18 D 109 Draft command standard training packages
- 19 D 124 Write job qualification standards (JQSs)
- 20 D 125 Write test questions
- 21 D 126 Write training reports
- 22 E 130 Complete accident or incident report forms
- 23 E 131 Conduct tours of aerospace physiology facilities
- 24 E 136 Draft or write report of surveys
- 25 E 149 Maintain mobility items
- 26 E 153 Maintain records on centrifuge or chamber research subjects

- 27 E 155 Maintain security forms on safe, containers, or for rooms
- 28 E 157 Participate in aircraft mishap investigations
- 29 E 158 Participate in aircraft physiological incident investigations
- 30 F 202 Evaluate water survival performances of students not wearing pressure suit assemblies
- 31 G 209 Escort students to flight surgeon's office following adverse chamber reactions
- 32 G 217 Remove or replace batteries in hypobaric chamber emergency systems
- 33 G 233 Treat chamber reactors for mechanical effects of pressure change, such as decompression sickness
- 34 I 247 Complete biannual inspections of high-pressure flasks
- 35 I 256 Perform weekly inspections of low-pressure compressors
- 36 I 260 Remove or replace hyperbaric chamber oxygen equipment items
- 37 J 270 Construct custom-fitted oxygen masks
- 38 K 319 Perform preflight physical examinations
- 39 K 330 Supervise donning and integration tests of occupied full pressure suits
- 40 K 331 Test and evaluate new or proposed pressure suit assemblies
- 41 M 372 Calibrate automatic controllers on research chambers
- 42 M 378 Mix and analyze breathing gases
- 43 M 379 Operate analytical devices in hypobaric chambers
- 44 M 381 Perform annual inspections of chamber temperature heating or refrigeration systems
- 45 M 383 Perform daily inspections of human experimental hyperbaric or hypobaric chambers
- 46 M 384 Perform daily inspections of hypobaric chamber fire suppression systems
- 47 M 385 Perform daily inspections of portable small animal hyperbaric or hypobaric chambers
- 48 M 387 Perform daily inspections of vacuum pump systems
- 49 M 389 Perform periodic inspections of human experimental hyperbaric or hypobaric chambers
- 50 M 390 Perform periodic inspections of hypobaric chamber fire suppression systems
- 51 M 391 Perform periodic inspections of portable small animal hyperbaric or hypobaric chambers
- 52 M 393 Perform periodic inspections of vacuum pump systems
- 53 M 394 Perform plumbing modifications to sealed environmental chambers
- 54 M 397 Perform special inspections of hyperbaric chamber fire suppression systems
- 55 M 398 Perform special inspections of hypobaric chamber fire suppression systems

- 56 M 399 Perform special inspections of portable small animal hyperbaric or hypobaric chambers
- 57 M 404 Remove or install analytical devices, such as mass spectrometers, on low-pressure chambers
- 58 M 405 Remove or install automatic controllers on research chambers
- 59 M 406 Remove or install gas sampling system components
- 60 M 407 Remove or install in-flight monitoring equipment from aircraft
- 61 M 408 Remove or install treadmills in hypobaric chambers
- 62 M 420 Size and fit antigravity protective equipment
- 63 M 422 Test and evaluate aeromedical evacuation equipment, such as respirators or incubators
- 64 M 423 Test oxygen masks, pressure suits, or chemical defense gear for inboard leakages